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**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

Order Instituting Rulemaking Concerning Energy
Efficiency Rolling Portfolios, Policies, Programs,
Evaluation, and Related Issues.

R.13-11-005
(Filed November 14, 2013)

SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) 2016 ANNUAL REPORT
FOR ENERGY EFFICIENCY PROGRAMS

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Dated: **May 2, 2016**

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Southern California Edison Company (SCE) hereby submits its 2016 Annual Report for 2015 Energy Efficiency Programs and Results, Appendix A hereto.

The Annual Report is filed and served in this proceeding pursuant to the Administrative Law Judge's Ruling Adopting Annual Reporting Requirements for Energy Efficiency and Addressing Related Reporting Issues dated August 8, 2007. This report is due on May 1 of the year following the end of a program year.

In addition, SCE submits a Notice of Availability for the related documents available for viewing and downloading on the CPUC's Energy Efficiency Statistics Application (EESTATS) website, Appendix B hereto.

Respectfully submitted,

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DATE: May 2, 2016

Appendix A

SCE's 2016 Energy Efficiency Annual Report for Program Year 2015

2016

Energy Efficiency

Annual Report

◆ Summary Report

2015 Program Overview & Strategies

◆ Technical Appendix

2015 Results

May 2, 2016

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Executive Summary

Southern California Edison Company (SCE) continues to build upon its leadership role through the delivery of a diverse, innovative, and cost-effective Energy Efficiency (EE) portfolio designed to meet the needs of our customers and the State of California's clean energy goals. In 2015, SCE programs collectively achieved over 1.5 billion kilowatt-hours (kWh) of annualized energy savings and 300 megawatts of peak demand reduction. These savings are equivalent to the amount of power required annually for 226,000 standard residential homes, or the removal of 221,000 cars from the road.

The Company also continues to drive innovation with the introduction of new programs and pilots focused on supporting State policy goals, as well as aligning EE to meet future grid reliability needs. Cross-cutting activities designed to meet the challenges of the water-energy nexus, as well as coordination with the California Energy Commission's (CEC) Proposition 39 Program, are some of the ways in which SCE's EE Programs support other State policies. In addition, through the Local Capacity Requirements (LCR) Request for Offer (RFO), the Preferred Resources Pilot (PRP), and the Distribution Resources Plan (DRP), SCE continues its efforts in innovative procurement, measurement, and planning to prepare Southern California for a distributed energy future. SCE also aligns with the California Public Utilities Commission (CPUC or "Commission") and industry stakeholders in the adoption and implementation of a more flexible EE program framework. In 2015, the CPUC formally established a 10-year EE "Rolling Portfolio" process in lieu of the existing three-year funding cycle. The Rolling Portfolio approach is an innovative planning concept for funding that will facilitate a move away from the start / stop nature of the shorter funding cycle. This new structure will increase flexibility and allow continuity of the EE portfolios. The Program Administrators are set to file Applications for the first 10-year Rolling Portfolio cycle on September 1, 2016.

Below are some highlights of the accomplishments of SCE's EE Programs during 2015. For further detail, please see the summaries in each of the program description sections of this report.

A. Residential Programs

In 2015, the Statewide Program for Residential Energy Efficiency effectively reached both single-family and multifamily customers by providing audits, incentives and rebates, new construction assistance, and comprehensive whole home upgrades (including building envelope, heating, ventilation & air conditioning [HVAC], and plug load measures) to over 180,000 residential customers. The Energy Upgrade California® Home Upgrade Program (EUC) continued to encourage comprehensive residential upgrades, completing over 1,200 projects in 2015, the highest number of home retrofit projects since program inception. SCE worked directly with program participants to identify and resolve application and process challenges, making the program and customer experience simpler, faster, and more efficient. SCE collaborated with trade organizations and distributors to recruit a diverse array of contractors and now has representation in multiple trades, including HVAC, insulation, plumbing, electrical, and general contracting. SCE partnered with the Lighting Innovation Program to offer free light-emitting diode (LED) lights to EUC customers who met specified qualifications and installed free lights in over 500 homes. The Advanced Home Upgrade Program also partnered with the Residential HVAC Quality Installation Program to drive deeper retrofits and educate customers about right-sizing and quality installation of their HVAC equipment.

The Home Energy Advisor (HEA) program launched the new EE Audit Tool (EEAT), designed to help customers carry out online audits of their homes and receive customized EE tips to help them reduce their energy usage. Home Energy Advisor also started new behavioral program pilots such as Home EE Survey (HEES) Enhancement, Energy Pledge, and 10-10-10+ Multi-family Behavior to explore ways to test effectiveness and behavioral impacts for homeowners, renters, and multifamily property owners.

The Appliance Recycling Program (ARP) successfully removed old, inefficient refrigerators and freezers from the market by creating a program that disposes components of the discarded units in an environmentally appropriate manner. In 2015, market indicators indicated that these intervention strategies have successfully transformed the market, and the existence of the ARP program is no longer necessary. Additional metrics that supported this finding included:

- SCE's ARP program received a CPUC DEER disposition confirming the transformation of the ARP market, and
- Title 20 code updates for refrigerators took effect in September, 2015, thus validating the market transformation associated with SCE's ENERGYSTAR® and Most Efficient Refrigerator rebates.

In 2015, SCE continued to serve multifamily customers through the Multifamily EE Rebate Program (MFEER), focusing on close coordination with the Energy Savings Assistance Program (ESAP) and other EE Programs, such as the Energy Upgrade California Multifamily Program. This created an integrated approach to providing market-rate and income-qualified customers with EE measures in a way that continues to simplify processes, eliminate duplicative functions, and deliver an improved customer experience. SCE also created a dedicated single-point-of-contact as a new resource for property owners to help them understand and participate in SCE's EE programs.

In the new construction area, SCE introduced a Lighting Efficacy measure in the California Advanced Homes Program (CAHP) to lower the dollar requirements (threshold) for enrollment, with the result of increasing customer interest in CAHP program participation. SCE also supported the development of the CAHP Master Builder Program and the Workforce Instruction for Standards and Efficiency (WISE) Program, which are both now in operation. The ENERGYSTAR® Manufactured Housing Program (ESMH) was closed, freeing funding to support more new energy-efficient homes.

B. Nonresidential Programs

SCE's successful nonresidential statewide programs, including the statewide Commercial, Industrial, and Agricultural EE Programs provided nonresidential audits and related services, deemed and calculated ("customized") incentives, new construction support, direct installation, HVAC programs, and continuous energy improvement (CEI) offerings to customers. These programs alone delivered EE measures to over 7,404 nonresidential customer service accounts in 2015.

SCE continued development of new audit tools, including a self-service online tool for commercial, industrial, and agricultural customers, and new tools to screen customers more effectively to determine their needs for in-depth audits. SCE also pursued expansion of pump testing into the industrial segment, a segment with less penetration due to the high customization of industrial pump systems.

Deemed and customized programs faced ongoing challenges: reductions in claimable energy savings because of updated Title 24 requirements in 2015, and the complexity of the customized process. Consequently, SCE focused on solutions to spur participation and encourage deep retrofits. This included:

- Continuing to offer a comprehensive bonus that encourages participation in multiple DSM programs to achieve deeper energy savings, and
- Consistent with CPUC guidance, program policy changes designed to encourage customers to participate in deemed programs instead of customized programs, thus implementing more standardized projects, reducing customer wait time, and simplifying processing.

Deemed programs are significantly more streamlined, less complex, and more cost-effective than customized programs, especially for smaller projects. Transitioning measures from customized programs to deemed programs improves customer experience and satisfaction with EE programs, and bolsters the overall value to ratepayers and cost-effectiveness of the EE program portfolio.

SCE's Commercial Direct Install Program continued its outreach to small business customers, helping more than 9,300 customers in 2015. The Program also continued its collaboration with SCE's Energy Leader Partnerships (ELP) to retrofit municipal-owned buildings, retrofitting 94 of these buildings with gross energy savings of 108 kW and 409,291 kW in 2015.

SCE's Nonresidential HVAC Program was recognized by the Association of Energy Services Professionals (AESP) with an "outstanding program award" for upstream HVAC program implementation in 2015. The program also grew by enrolling 78 contractors in its new

"Early Retirement" offering, which assisted customers by identifying for replacement, and/or replacing, over 15,000 tons of inefficient equipment. The HVAC Early Retirement, Quality Maintenance, and Quality Installation subprograms continue to coordinate with the Workforce Education & Training (WE&T) program to align available trainings with program objectives.

SCE's On-Bill Financing Program funded over 215 projects¹ in 2015, representing over \$9.67 million in loans, thus enabling businesses, local governments, and institutional customers to pursue increasing levels of EE. SCE also worked with the other investor-owned utilities (IOUs), the CPUC, and the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) to develop a suite of new finance pilots. The pilots are expected to launch in 2016 and early 2017 and will leverage third-party capital to provide financing options for EE and DSM projects to single-family, multifamily, and small businesses and other nonresidential customers.

C. Partnership Programs

In 2015, 128 (of 200) cities and 10 counties participated in SCE's local government partnerships, including 12 new partners. Twelve existing partners moved up one (1) tier in SCE's Energy Leader Partner (ELP) model through demonstrated EE achievements and commitment to the partnerships, including participation in EE retrofits and enrollment in demand response (DR) programs: one (1) partner advanced to Platinum Level, nine (9) to Gold Level, and two (2) to Silver Level.

SCE continued working to further Local Government Long-Term Energy Efficiency Strategic Plan Goals. This work helped local governments develop a long-term EE vision and identified specific EE projects for implementation. Overall, partner cities have developed 91 energy action plans, which establish a baseline of energy usage, set energy savings goals, and identify near-term measures that will accomplish the goals. Additionally, 105 partner cities have installed utility manager systems, 42 cities have developed benchmarking plans, and 26 cities have developed a revolving EE fund to further promote EE within the city.

¹ Figures represent both new projects initiated in the 2013-2014 cycle, and projects committed in the 2010-2012 cycle where installation was completed in 2015.

SCE continued its successful Institutional Partnerships in 2015, completing 48 Community Colleges projects, including Prop 39 projects. SCE also supported Cerritos Community College in developing a Strategic Energy Plan and conducting a comprehensive audit, which resulted in identifying a central plant tie-in project that is projected to save over 2 million kWh and 400 kW annually. Through the State of California Partnership, SCE participated in a Sustainable Building Working Group, which consists of agency sustainability managers tasked with planning and implementing all aspects of the Governor's Executive Order B-18-12. Additionally, SCE assisted the State Judicial Branch (under the Judicial Council of California) to canvass 28 court facilities in SCE territory, and identified a pipeline of opportunities for EE projects in the next few years.

D. Third Party Programs

SCE continued to draw upon the strengths of the EE community, including third party implementers, to provide EE services to a wide array of customer segments including businesses, industrial customers, health care facilities, universities, and schools. Much attention has been given in most of the Third Party Programs to shifting program emphasis away from lighting toward deeper retrofit opportunities through HVAC upgrades, retrocommissioning, and controls systems.

The IDEEA 365 Program launched several interesting new concepts in 2015, including the Water Infrastructure and System Efficiency (WISE) Program, which provides water-energy solutions for all major water-related needs (pumping, water treatment, water distribution, and waste water treatment) throughout SCE's territory. The program successfully enrolled projects in 2015 and leveraged other funding sources to deliver additional commitments through SCE's Local Government Partnerships. The WISE Program has shown promising results to date and plans are being developed to transition the program into the core third party offerings.

The Comprehensive Manufactured Home Program (CMHP) carried out a similar effort on water conservation. CMHP partnered with the Southern California Gas Company (SCG or SoCalGas) and Irvine Ranch Water District to promote water-energy savings. Through this effort, mobile home customers received water conservation measures such as toilets,

showerheads, faucet aerators, and some landscaping measures as add-ons to the existing products and services offered under CMHP.

E. Crosscutting Programs

SCE's crosscutting programs provided significant resource and non-resource contributions to the portfolio in 2015. The IOU statewide Codes and Standards team played a significant role in the development, adoption, and implementation of innovative training, best practices, and tools to support enhanced code compliance with Title 24 building energy standards and Title 20 appliance standards, and tactical planning for the 2020 residential zero net energy (ZNE) goal. Past efforts of SCE's Codes and Standards Program will be reflected in the new 2016 Title 24 standards (adopted in May, 2015 for implementation in January, 2017). Additionally, SCE worked closely with CEC staff in 2015 to identify new minimum standards for residential HVAC split air conditioning and heat pumps, began work on the 2019 Title 24 standards, and advanced the framework for the "compliance software roadmap." SCE delivered 10 work plans and Codes and Standards Enhancement (CASE) Study reports in support of Title 20, and remains active in 49 federal EE rulemakings. SCE continues to support compliance with California codes and regulations, as demonstrated by offering 115-plus compliance improvement classes in 2015, advancing training for a multitude of industry professionals, and enhancing the statewide website for compliance improvement, EnergyCodeAce (www.energycodeace.com), by adding improved tools to it for understanding and complying with Title 20 and Title 24.

The Emerging Technologies (ET) Program continued to implement its three (3) subprogram and engagement strategies: supporting development of new technologies, increasing market supply, and supporting program measure readiness through assessment and introduction of new measures. The program exceeded all performance metrics and successfully transferred assessment results to the EE programs, via SCE's New Products and Service Gating and Governance process, for adoption as EE measures. Consistent with our goal of increasing technology supply, the program continued its partnership with California Institute of Technology (CalTech), the manager of the U.S. Department of Energy (DOE)'s First Look West (FLoW) clean tech competition. Part of the partnership with CalTech included mentoring companies and

establishing an Emerging Technologies Coordinating Council (ETCC) member-supported \$125,000 fund designed to advance such companies on their road to commercialization.

The ET Program also continued to conduct residential ZNE demonstrations in partnership with home builders, demonstrating ZNE's technical viability and supporting the advancement of state goals. ET continued to optimize the new ETCC collaboration structure that includes a new Leadership Team member, the Los Angeles Department of Water and Power (LADWP), and a new 14-member Advisory Council from across the industry. Newly structured ETCC quarterly meetings increased focus on strategic technology issues, which have significantly increased participation.

An ET Program evaluation study led by the CPUC Energy Division was completed in 2015. The study found that approximately 50% of the measures reported by the ET team in 2013-2014 were matched measures (that is, these measures were transferred to SCE's programs). These measures accounted for approximately 2% of the IOUs' electric EE portfolios and 1.3% of the IOUs' gas EE portfolios. The study also reported that 86% of ET activities in 2013-2014 (that is, adopted projects) aligned with California Long-Term Energy Efficiency Strategic Plan (CLTEESP) end-uses.

The Statewide Lighting Program also supported both the commercial and residential segments. SCE's Primary Lighting Program continued to transition the market to LEDs to meet CEC standards, incentivizing over 3.1 million qualifying products at retailer locations in 2015, up from approximately 800,000 in 2014. The Lighting Innovation Program successfully implemented the Advanced Lighting Control Systems (ALCS) Pilot Program in January, 2015 to explore the qualitative attributes and energy savings of leading-edge lighting system controls in various commercial settings. At year's end, 40 customer projects were participating in the pilot.

The Statewide Workforce Education & Training (WE&T) Program provided training, seminars, and workshops to over 16,000 industrial professionals in 2015 through SCE's Energy Education Centers.

F. Water-Energy Activities

While SCE's EE programs are specifically focused on delivering cost-effective electrical energy and demand savings, some EE measures also result in water savings, particularly measures in the agricultural and industrial sectors, such as pump testing and customized agricultural measures. Given the prolonged severity of the State's drought despite an El Nino weather pattern, SCE continued its engagement and focus on investigating potential water-related EE measures in 2015. SCE worked with the CPUC and other stakeholders to support approval of a Water-Energy Calculator that may enable capture of important EE program components that encourage direct and embedded energy savings. In order to advance these efforts, SCE participated in discussions with the CPUC and stakeholders on how to best align potential water activities and their associated savings with current EE programs, in order to incorporate relevant water-related measures into the EE portfolio. These developments will continue as we support the Water-Energy Nexus initiative. Highlights included the creation of Title 20 efficiency measures (effective in 2016) for faucets, toilets, urinals, and showerheads that were supported by the statewide Codes and Standards Program, the development of the "10-10-10+ Pilot" that incorporates electric, gas, and water savings through behavioral interventions, further investigation of leak loss detection activities, and sharing of best practices with water agencies under the Local Government Partnership program. SCE also continued its pump efficiency services program, which assists customers in identifying water savings opportunities and pump efficiencies and provides in-field training, and launched the WISE program as part of IDEEA 365, as mentioned under Section D, Third Party Programs, above.

G. Proposition 39 Program Coordination

In 2015, SCE continued to coordinate with the other IOUs, municipal utilities, and the CEC on implementing the Proposition 39 Program ("Prop 39"), which is administered by the CEC and provides approximately \$550 million per year² for EE and renewable projects to California K-12 schools and community colleges. Since its inception, Prop 39 has allocated over \$937 million for such projects.

SCE programs involved in Prop 39 efforts include:

² Beginning in fiscal year 2013-2014, and continuing for five (5) years.

- SCE's California Community Colleges (CCC) Partnership, which coordinated closely with its Partners to provide enhanced outreach, project development, and technical support for 28 CCC districts representing 46 campuses — all the CCC districts in SCE's service territory — and helped the colleges identify over 100 potential Prop 39 projects, delivering 7.7 million kWh in energy savings in 2015.
- SCE also encouraged K-12 school districts to couple Prop 39 funds with IOU services and incentives, and worked closely with the other IOUs, the CEC, the CPUC, and other key stakeholders to ramp up for K-12 Prop 39 implementation and to coordinate SCE's commercial deemed and customized programs and the third-party Cool Schools Program with Prop 39.
- In 2015, over 68 schools using Prop 39 funding participated in SCE's Cool Schools Program, with estimated energy savings over 3.5 million kWh and 1 MW.
- The Schools Energy Efficiency Program (SEEP) is currently in the process of re-designing the program offering in order to allow K-12 school districts to leverage Prop 39 funds through a co-pay mechanism, thus helping the schools stretch their Prop 39 funds.
- The Commercial Continuous Energy Improvement (CEI) Program launched the Sustainability Circles pilot, which included a Prop 39 circle, representing eight (8) public school districts.
- SCE and the other IOUs launched the Prop 39 ZNE pilot program in April, 2015, working closely with the CPUC, CEC, CCCs, and other stakeholders. Round 1 of the pilot has produced interesting ZNE demonstration projects, and Round 2 is currently underway. The IOUs have also hosted technical and institutional workshops, partnering with the New Buildings Institute.

H. Integrated Demand Side Management (IDSM)

SCE's vision for the effective and comprehensive delivery of energy efficiency is centered on an unprecedented level of IDSM program design and deployment, designed to transform the way customers understand, use, and manage their energy usage. During 2015,

SCE pursued an integrated approach to its portfolio of offerings and customer engagement, through integrated marketing, portfolio management, and innovative IDSM statewide collaboration to improve the integration of EE with other DSM offerings such as demand response and distributed generation.

SCE continued to emphasize its policy vision for IDSM throughout the EE portfolio by taking an integrated approach to its online residential and small business audit tool, EEAT, developing integrated marketing collateral and campaigns, conducting outreach events, making website efforts, and establishing an integrated EE measure application process. SCE also continued its participation in the Statewide IDSM task force, ensuring that the vision and leadership of CLTEESP is fully realized throughout the EE portfolio.

I. Conclusion

SCE continues to lead the way in delivering both cost-effective and innovative EE solutions to meet State reliability and clean energy policy objectives. SCE continues to work closely with multiple stakeholders to improve both the delivery and value of EE, and to maximize ratepayers' benefit from these resources, through portfolio optimization, exploration of new procurement methods, and advanced measurement and verification of energy savings. In 2016, SCE will continue to refine and adapt its Energy Efficiency Portfolio to support current and future State policy objectives and to increase grid reliability.

Go on to the next page

2015 Energy Efficiency Programs Overview

I. Statewide Program for Residential Energy Efficiency

California's Long-Term Energy Efficiency Strategy Plan (CALTEESP) goals — encouraging cost-effective Zero-Net-Energy (ZNE) new construction activities, achieving deep energy reduction results for retrofit single-family homes and multifamily buildings, and reversing the growth of plug load by 2020 — require integrated and targeted program interventions. In 2015, SCE continued to work with other California program administrators, water agencies, and other organizations in the state to advance these important objectives. In addition, SCE responded to the California legislation to support mandated EE goals, set forth by SB 350, AB 802, and AB 793, in a cost-effective manner. SCE program intervention and implementation activities in 2015 were designed to reach California's diverse population, climate zones, and socio-economic classes and tap its economic potential while striving to improve cost-effectiveness.

The 2015 California Statewide Program Residential Energy Efficiency (CalSPREE) program offered and promoted specific and comprehensive energy solutions within the residential market sector. The residential portfolio employs various strategies and tactics to overcome market barriers and to deliver programs and services aligned to support the Strategic Plan, by encouraging adoption of economically-viable EE technologies, practices, and services to address the needs of three different markets: (1) Homeowners and Renters, (2) Multifamily Property Owners, and (3) New Construction Builders. The primary objectives of these residential programs are:

- To facilitate, sustain, and transform the long-term delivery and adoption of EE products and services for homeowners, renters, multifamily property owners, and new construction builders.
- To cultivate, promote, and sustain lasting EE behaviors by residential customers, through a collaborative statewide education and outreach mechanism.
- To meet consumers' EE adoption preferences through a range of offerings including single-measure incentives, behavior, and more comprehensive approaches.

The Statewide Residential Programs implemented a cross-cutting set of downstream, midstream, and upstream delivery channels that build on customer education and marketing efforts in order to leverage important relationships with market actors and industry participants and to transform the residential consumer markets. Market transformation and direct energy savings and demand reductions are achieved through six (6) subprograms that make up the comprehensive program approach.

A. Home Energy Advisor Program

1. Program Description

The Home Energy Advisor (HEA) Program helps customers understand their energy use and empowers them to manage it, while guiding them toward whole-house energy solutions. This subprogram utilizes behavioral outreach initiatives and interactive online tools designed to engage and encourage customers to reduce energy, water, and gas consumption by providing behavioral solutions and energy-related actions and recommendations.

2. Strategies Implemented in 2015

(a) Home Energy Reports (HERs):

HERs were used to provide customers feedback about their energy usage and to influence recipients' behavior on conservation. HERs also used a social norm behavior strategy, which helps influence recipients by comparing their consumption to their neighbors' usage.

HERs were mailed to approximately 7% of SCE's eligible residential customers, exceeding the CPUC target of 5%.

(b) Home Energy Efficiency Surveys (HEES):

More than 500,000 HEES surveys were mailed, with an impressive customer response rate of 15%. Customers who responded to HEES surveys received a customized Home Energy Report with a list of recommendations to help reduce energy, water, and gas usage within their households. Links were provided to existing residential rebate programs to motivate additional EE savings activity.

(c) Home Energy Advisor Energy Efficiency Online Audit Tool (aka UAT or EEAT):

The EEAT was launched in October, 2015, and is the HEA Program's latest innovation in online audits. It allows customers to take an interactive online survey about their home's structure, heating & cooling, appliances, and usage in order to provide customized EE tips and actions to them.

The EEAT also uses behavioral strategies, such as commitment, feedback, and social norms, to influence customer to lower their energy usage.

(d) Online Buyers Guide:

The Online Buyer's Guide (OBG) Program, or Home Energy Guide, supports Strategic Plan objectives by providing SCE residential customers with an integrated guide to information and with tools that help them overcome market barriers discouraging them from purchasing EE products. In 2015, the online content was updated with enhanced features and information to further customer participation and knowledge.

(e) HEA Program CPUC-Approved Pilots:

(1) HEES Enhancement Pilot (in progress):

The HEES Enhancement pilot is a customized home energy report that delivers feedback and social norm behavior strategies to selected customers. Mailings inform customers of their historic electric consumption and provide EE tips and information about tier structures, in order to help them manage their usage better.

(2) Pledge to Save Energy Behavior Pilot (in progress):

The Pledge to Save Energy is a year-long pilot (launched in December 2015) utilizing a customer commitment and follow-through behavior strategy by soliciting participants to make an Energy Savings Pledge. The customer may choose from a list of pledges designed to target low-cost to no-cost behavior modifications.

(3) 10-10-10+ Multifamily Behavior Pilot (in progress):

The 10-10-10+ Multifamily Behavior pilot was in the planning stages in 2015 and will be launched between 2016-2017. This pilot is a multi-party effort among SCE, SoCal Gas, and multiple water agencies. Its goal is to implement behavior strategies that influence tenants and property owners and managers to reduce usage of electricity, gas, and water in selected multifamily complexes.

B. Statewide Plug Load and Appliances Program

1. Program Description

The Plug Load and Appliances (PLA) Program merges the former Home Energy Efficiency Rebate (HEER) and Appliance Recycling (ARP) Programs. This subprogram develops and builds upon existing Point of Sale (POS) retailer relationships and includes Responsible Appliance Disposal (RAD) appliance recycling strategies. The PLA Program offers rebates and incentives to customers for purchasing and installing high-efficiency appliances (such as those with ENERGYSTAR[®] approval) and recycling inefficient refrigerators and freezers.

2. Statewide Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the statewide PLA Program:

- The statewide PLA Program team held bi-monthly IOU program planning discussions that encouraged collaboration on specific plans and strategies that positively impacted the PLA Program.
- The statewide PLA Program continued engagement with numerous stakeholders (including Cal-Plug, Natural Resource Defense Council, CEC, Northwest Energy Efficiency Alliance, Sacramento Municipal Utility District, EPA, ENERGYSTAR[®], and the Consortium for Energy Efficiency) to increase coordination and collaboration on measure development and to continue dialogue among IOUs and Commission staff on future program development and opportunities.

3. SCE Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the PLA Program:

- Deployed a targeted evaporative cooler campaign to customers in the high desert. Customers received marketing information about available evaporative cooler rebates, explaining how the coolers use 70% less electricity than traditional air conditioning units.
- Continued working with the Foundation for Pool and Spa Industry Education (FPSIE) to provide specialized training classes for pool pump contractors and installers. Classes focused on the appropriate installation of Variable-Speed Drive (VSD) pool pumps, on energy savings, and on commissioning pumps to operate off-peak.
- PLA subprograms offered increased incentives to help further energy efficiency within the Preferred Resources Pilot (PRP) region:
 - The Home Energy Efficiency Rebate (HEER) subprogram offered a short-term increased incentive of \$300 for purchasing and installing variable-speed pumps within the PRP region.
 - The Appliance Recycling subprogram offered an increased recycling incentive of \$75 to customers for having their unit picked up within the PRP Zip codes.

The purpose of these increased rebates and incentives was to help the PRP Initiative Team test whether clean energy resources — including solar, wind, energy storage, energy efficiency, and energy conservation — can be acquired and deployed to offset the increasing customer demand for electricity in central Orange County.

C. Multifamily Energy Efficiency Rebate (MFEER) Program

1. Program Description

The MFEER Program offers prescriptive rebates for EE products (such as lighting, pool pumps, evaporative coolers, etc.) to motivate multifamily property owners and managers to install these products. The EE products can be installed in common and

dwelling areas of multifamily complexes, and in common areas of mobile home parks and condominiums. An additional objective of the program is to heighten the EE awareness of property owners, property managers, and tenants.

The MFEER Program continues to address the ongoing concern relating to "split incentives," where residents lack incentive to install sometimes costly EE measures to reduce their energy usage because they do not own the property. Similarly, property owners often lack incentive to upgrade because they do not live on-site and thus do not pay the higher utility bills that result from inefficient appliances. MFEER was designed to drive this customer segment toward participation by offering property owners a variety of EE measures and services.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the MFEER Program:

- MFEER continued to work closely with the Energy Savings Assistance Program (ESAP) to maximize the savings potential and benefits for customers. This integrated approach combines market-rate and income-qualified EE measures.
- SCE continued to advertise in various apartment industry trade publications and participated in several trade shows promoting MFEER and other related programs. As a result, the program has maintained continued engagement with energy specialists and property management firms.
- SCE expanded its implementation of variable-speed drive (VSD) Pool Pumps to include wading pools and spas.
- SCE introduced new LED measures, such as A-Lamps, Accent and Recessed Downlight Fixtures, and LED Wall-Pack fixtures.

D. Energy Upgrade California[®] (EUC) Home Upgrade Program

1. Program Description

The Energy Upgrade California[®] Home Upgrade Program provides incentives for comprehensive home upgrades to single-family and multi-unit (two-to-four) residential

customers. The program guides customers to carry out retrofits using a whole-house approach that allows them to achieve deeper and more comprehensive energy savings in keeping with the EE loading order. This approach views a building as a set of interdependent systems that must be considered holistically. The Home Upgrade program is designed to offer a one-stop approach to whole-house energy-efficient improvements. The objectives for Home Upgrade are to introduce contractors and residential customers to the concept of home performance, help transform the home retrofit market, and drive participation that will reduce customers' energy use, on average, at least 10% and up to 45% annually.

To participate in the Home Upgrade Program, customers must work with a participating contractor to install eligible EE measures. Incentives of up to \$6,500 per home are available. There are two (2) paths in the Home Upgrade Program:

- A Basic Home Upgrade path that uses a deemed / hybrid approach.
- An Advanced Home Upgrade path that uses comprehensive energy modeling.

These paths allow customers to choose from a variety of measures that best suit their homes and needs.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the EUC Home Upgrade Program:

- Increased the number of projects, thus achieving the highest level of customer participation since inception of the Program.
- Implemented four (4) new software modeling tools in April — Cake Systems, SnuggPro, Optimiser, and Treat — for Advanced Home Upgrade. These tools are expected to improve energy savings prediction accuracy.
- Added a Residential HVAC Quality Installation (QI) component to Advanced Home Upgrade, offering an additional \$400 incentive to complete a HVAC QI project as part of an Advanced Home Upgrade project.

- Continued to streamline program reporting requirements, working with the other IOUs. Building on 2014 improvements, the IOUs have continued to work closely with program participants to identify and resolve application and processing challenges, through improved desktop review practices and additional training for contractors.
- Implemented a "Collaborative QC" approach between contractors, the Quality Assurance / Quality Control (QA/QC) vendor, and account managers to resolve issues found in the field during QC inspections in a timely manner.
- Through targeted efforts, identified the customer attributes linked to a propensity to participate in the program and the building attributes (such as age of the home) tied to higher potential savings. This analysis was used to determine target regions for marketing and outreach efforts.
- Partnered with HEES Home Energy Report to add a Home Upgrade message in the Phase 1 and 2 mailings to over 120,000 customers.
- Continued partnership with the Lighting Innovation Program to offer \$300 in free LED lights to Home Upgrade customers reaching 150 points in combined measures. Customers must agree to complete a Lighting Survey after the project is complete. Twelve contractors participated and over 500 homes received lighting products.

3. Energy Upgrade California Multifamily Pilot

The EUC Multifamily Pilot is an extension of the existing statewide EUC Program. The Energy Upgrade California Multifamily (MF EUC) Pilot Program specifically targets the multifamily housing retrofit market and promotes long-term energy benefits. The SCE program is implemented in coordination with SoCalGas, with SCE serving the Lead Utility role.

(a) Pilot Strategies Implemented in 2015

- The MF EUC Pilot Program fostered 15 successfully completed projects spanning over 118 buildings and serving 1,919 individual dwelling units.

The Pilot Program was wrapped on March 31, 2016. Process evaluation is expected to be completed in by the end of the 3rd Quarter of 2016; insights and findings will be used to inform future program designs.

E. Residential New Construction (RNC) Program

The RNC Program is a continuing statewide program that includes the California Advanced Homes Program and, in Southern California, the ENERGYSTAR[®] Manufactured Homes Program. The RNC Program is designed to guide builders to produce the most efficient homes in the most cost-effective manner, and will examine methodologies for supporting the Strategic Plan target of zero net energy (ZNE) by 2020.

1. California Advanced Homes Program (CAHP)

(a) Program Description

CAHP provides comprehensive support for saving energy in the residential new construction sector, with a cross-cutting focus on sustainable design and construction, green building practices, EE, and emerging technologies. Through a combination of education, design assistance, and financial support, CAHP works to encourage building and related industries to exceed California's Title 24 EE standards, and to prepare builders for future changes to these standards.

(b) Strategies Implemented in 2015

2015 was another successful year for CAHP, which accumulated enough energy savings goals and unit participation to surpass the program's targets. The residential new construction market has continued the improvement seen in 2014, providing the program with good opportunities for productive engagement with the new construction industry. However, the recent and future tightening of California Title 24 standards have kept the program focused on continuing to improve and enhance its efforts to save energy for utility customers and to support the State's ZNE goals.

- A Lighting Efficacy measure was introduced to lower the threshold of enrollment, resulting in increased interest in participation in the program.

- Climate zone fact sheets were introduced to help builders and energy consultants better understand how measures could affect a building's energy use and CAHP score. This outreach to builders and energy consultants at industry conferences and showcase events also helped bring more visibility to the program and to EE in general.
- CAHP also assisted the development of the "CAHP Master Builder Program" to support 2016 Title 24 requirements and the "Workforce Instruction for Standards and Efficiency" (WISE) educational outreach Program.

2. ENERGYSTAR[®] Manufactured Housing (ESMH) Program

(a) Program Description

The ENERGYSTAR[®] Manufactured Housing (ESMH) Program was part of the statewide Residential New Construction program, and addressed new factory-built housing not covered under the State's Title 24 energy codes. ESMH was designed to promote the construction of new manufactured homes that comply with the ENERGYSTAR[®] energy efficiency standards, and targeted manufacturers, retailers, and buyers of manufactured homes. The key objectives of the program were to capture cost-effective energy savings and demand reduction opportunities, and to move the industry toward ZNE.

(b) Strategies Implemented in 2015

Market demand for this type of construction was minimal; therefore, no new strategies were implemented in 2015. The program was closed effective June 19, 2015, per AL 3210-E which was approved by the CPUC.

F. Residential Heating, Ventilation, and Air Conditioning (HVAC) Program

The Residential Heating, Ventilation, and Air Conditioning (HVAC) Program has the primary objective of driving high quality levels in California's HVAC market for technology, equipment, installation, and maintenance. An additional objective is to increase customer awareness of the value of HVAC installation and maintenance practices that will increase energy efficiency and peak load reduction.

1. Residential HVAC Quality Installation (QI) Subprogram Description

The Residential HVAC Quality Installation (QI) subprogram addresses residential installation practices to ensure that equipment is installed and commissioned per industry standards.

2. Residential HVAC QI Subprogram Strategies Implemented

In 2015, SCE implemented the following strategies for the Residential HVAC QI subprogram:

- Began cross-promotion with Energy Upgrade California by including a Residential HVAC QI booth and presentation during Home Upgrade contractor training. Also, Energy Upgrade California modified its Home Upgrade project application screen to include a Residential HVAC QI option for Advanced Home Upgrade projects.
- Active Residential HVAC QI contractors were strongly encouraged to complete HVAC retrofits through Advanced Home Upgrade, with a small additional incentive.
- Contractor Training increased in 2015 to include three (3) sessions on load calculation software and program-specific topics. Training policies were modified to stipulate that trainees must complete all requirements by the end of the training session.

3. Residential HVAC Quality Maintenance (QM) Subprogram Description

The Residential HVAC Quality Maintenance (QM) subprogram addresses maintenance practices to ensure that heating and cooling equipment is serviced per industry standards and that the maintenance effort supports the long-term strategic goal of transforming the HVAC maintenance trade from commodity-based to quality-based.

4. Residential HVAC QM Subprogram Strategies Implemented in 2015

In 2015, after reviewing barriers outlined by participating contractors and assessing the cost associated with developing a new hand-held data capture device, the program

team began review of existing diagnostic tools to identify systems that incorporated industry-standard Air Conditioning Contractors of America (ACCA)-4 procedures and an automated Test-In and Test-Out process. The goal of this review is to provide contractors with easier and faster diagnosis of HVAC problems on their initial visit.

For Residential HVAC QM, SCE:

- Provided measures for system assessment and optimization, one-year preventive maintenance agreements modeled after ACCA 4, system air flow improvements, and Brushless Fan Motor installation.
- Worked with members of the Western HVAC Performance Alliance to identify performance-based standards that facilitate maintenance procedures for technicians.

II. Statewide Commercial Energy Efficiency Program

The Statewide Commercial Energy Efficiency Program offers strategic energy planning support, technical support (such as facility audits, calculations, and design assistance), and rebates and incentives to provide DSM solutions that help commercial customers save energy and money. Targeted segments include distribution warehouses, office buildings, hotels, motels, restaurants, schools, universities, colleges, hospitals, high-tech facilities, biotechnology facilities, retail facilities, and smaller customers that have similar buying characteristics. This program includes the following subprograms: the Commercial Energy Advisor Program, the Commercial Calculated Program (which includes the Savings by Design Program), the Commercial Deemed Incentives Program, the Commercial Direct Install Program, the Commercial Continuous Energy Improvement (CEI) Program, and the Nonresidential HVAC Program.

A. Commercial Energy Advisor Program

1. Program Description

The Commercial Energy Advisor Program offers a wide and comprehensive offering of audit services, including energy assessments, benchmarking, basic integrated retrocommissioning, continuous energy improvement audits, and online "do-it-yourself"

audits. This program also offers customers pump test services through its Pump Efficiency Services (PES) program component. Pump tests are designed to help customers make informed decisions about improving inefficient pumping systems. The PES program component also provides targeted education, training, technical support, and renovation and/or replacement incentives.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Commercial Energy Advisor program:

- Implemented its Business Energy Advisor (BEA) online "do-it-yourself" audit tool. This enhanced version of BEA covers not only commercial building types, but also small agricultural and industrial properties.
- Completed development of its OASIS tool (Onsite Audit Services Information System). OASIS is a sophisticated on-site auditing tool which will simplify the audit process, generate customized customer audit reports, create a simple pathway to transfer data to SCE's online application tool, and enable a greatly enhanced capability to analyze facility energy data.
- Completed development of SCE's online benchmarking training course. The course will educate customers on the use of ENERGYSTAR® Portfolio Manager® and allow them to take the course at a time of their choosing. Release of the course is scheduled for early 2016.
- Implemented push audits, that is, an audit format where SCE proactively develops an audit recommendation for customers by identifying measures, energy savings, and available incentives. A push audit is a cost-effective delivery model to provide proactive custom audits. These audits were used to deliver audit recommendations to 17,700 (agricultural, commercial, and industrial) service accounts in fulfillment of a CPUC compliance requirement.

B. Commercial Calculated Incentives Program

1. Program Description

The Commercial Calculated Program (advertised to customers as the "Customized Retrofit Offering") offers incentives for customized retrofit and retrocommissioning energy efficiency projects. It also provides comprehensive technical and design assistance through its Savings by Design subprogram. Incentives are paid based on a project's energy savings and permanent peak demand reduction above baseline energy performance; that is, above the requirements of state-mandated codes, federal-mandated codes, industry-accepted performance standards, or existing energy performance, as applicable. New offerings provide a framework to encourage emerging technologies and deeper, more comprehensive retrofits.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Commercial Calculated Incentives program:

- Implemented a \$2,200 minimum incentive project submission threshold to increase program cost-effectiveness.
- Continued to offer a Comprehensive Bonus Opportunity to encourage the development of projects with deeper energy savings and demonstrated DSM activities.
- Integrated retrocommissioning into the Customized Retrofit Offering, which eliminated the need for a separate retrocommissioning program.
- Implemented a requirement for project narratives for all large Customized Retrofit projects to demonstrate program influence on all project submissions, increase project quality, reduce cycle time for CPUC Energy Division reviews, and decrease the number of declined projects.

C. Savings By Design Program³

1. Program Description:

Savings By Design (SBD) serves the commercial new construction market segment. The program promotes integrated design by providing owner incentives, design team incentives, and design assistance to participants who design spaces that perform at least 10% better than Title 24 requirements.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for Savings by Design:

- Enabled easier customer participation by allowing digital signatures and transmission of SBD incentive agreements. This process significantly reduced time delays, expenses, and document control issues.
- Revised project processing activities, resulting in a net 26% reduction in the time required to process a customer's project application.

D. Commercial Deemed Incentives Program

1. Program Description

The Commercial Deemed Incentive Program (advertised to customers as "Energy Efficiency Express Solutions") offers eligible business customers incentives that encourage common, standardized EE equipment retrofits. Deemed retrofit measures have fixed incentive amounts per measure unit, and are intended for projects that have well-defined energy and demand savings. Projects are typically identified through utility EE audits, customer communications with local SCE representatives, SCE contractors, and/or partnerships with equipment vendors and trade allies. Interior and Exterior LED Lighting, Variable Speed Drives, and Pumping System Optimization were the top measures for 2015.

³ As filed, Savings by Design is part of the Commercial Calculated Incentives Program. Per Energy Division's request, however, SCE reports Savings by Design as a separate subprogram.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Commercial Deemed Incentives Program:

- Conducted off-site training events for Customers' Authorized Agents (contractors or other energy service providers), who act on behalf of customers to submit a substantial percentage of program applications.
- Continued to offer a Comprehensive Bonus Opportunity to encourage the development of projects with deeper energy savings and integrated DSM.
- Transitioned high-volume lighting measures to the new, more cost-effective Midstream Lighting point-of-purchase program.⁴

E. Commercial Direct Install Program

1. Program Description

The Commercial Direct Install Program delivers no-cost and low-cost EE hardware retrofits through installation contractors to reduce peak demand and energy consumption for small and medium commercial customers. The program targets small and medium businesses in a staged delivery approach that provides its services in specific geographic areas at different times, allowing for a more concentrated and directed program.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Commercial Direct Install Program:

- Continued the customer participation demand threshold at a maximum of 199 kW.
- Continued implementation of a marketing plan that emphasizes a collaborative outreach effort to stimulate greater participation.
- Served customers using a district approach, which allows broad coverage by audit and construction teams in a larger area, increasing program efficiency.

⁴ See Section V.(B), Lighting Innovation Subprogram, below.

- Evaluated and added new measures to the program, including candelabra LED and recessed-can LED retrofit kits.
- Partnered with SCE's Energy Leader Partnership Program to leverage the Direct Install offering to municipally-owned facilities (funded by the partnership programs).

F. Commercial Continuous Energy Improvement Program

1. Program Description

The Commercial CEI Program is a non-resource subprogram that offers strategic planning tools and resources which lay the groundwork for long-term integrated energy planning, and serve as a launching platform for other utility and non-utility programs and services. Through analysis, benchmarking, long-term goal setting, project implementation support, performance monitoring, and ultimately energy management certification, CEI aims to transform the market from a "project-to-project" approach to a continuous improvement pathway. In support of the Strategic Plan, a CEI approach also sets the stage for non-energy resource integration, such as greenhouse gas (GHG) reduction and water conservation strategies.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Commercial CEI Program:

- The incorporation of an on-going measurement and verification (M&V) phase for participants from the previous year. This included collecting and modeling data for baseline regression models, adopting a more hands-off approach that would allow for the collection of information.
- In addition to ongoing M&V, baseline modeling and data acquisition capable of supporting M&V were integrated into new engagements. Full access to energy and energy driver data was made a prerequisite to participation.
- An assessment of energy management resources, often referred to as an "organizational assessment," is an integral component of the CEI engagement.

This function was fulfilled by using a proprietary assessment tool in previous program cycles.

- In 2015 the program implementer transitioned to a more flexible and robust assessment tool aligned with the Consortium for Energy Efficiency (CEE) "Minimum Elements of Strategic Energy Management" programs.

G. Nonresidential HVAC Program

1. Upstream HVAC Equipment Incentive Program

(a) Program Description

The Upstream HVAC Equipment Incentive Program offers incentives to distributors who sell qualifying high-efficiency HVAC equipment, in order to increase the regional stocking and promotion of such equipment. Upstream HVAC includes an Early Retirement subprogram that offers incentives to contractors to work with customers and influence them to replace old, inefficient operating equipment with new, high-efficiency equipment.

(b) Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Upstream HVAC Equipment Incentive program:

- Continued to actively promote the program to build on contractor, distributor, and manufacturer participation in 2014 and engage those who have not yet participated, resulting in the addition of new distributor participants and marked growth in overall program participation.
- Continued to promote new technologies and/or related equipment categories, such as package equipment that meets or exceed the U.S. DOE "RTU Challenge," variable refrigerant flow equipment, ductless equipment, air-cooled chillers, and water-cooled chillers.
- Explored market opportunities to adjust and enhance performance tiers for all categories affected by 2015 Federal code updates.
- Continued to develop Early Retirement offerings to participating HVAC

contractors, encouraging them to identify opportunities through their existing maintenance agreements and customer contacts. Contractors work with distributors participating in the Upstream HVAC program to identify and select new high-efficiency units.

- Enrolled 78 contractors in the Early Retirement subprogram.
- Replaced (or identified for replacement) over 15,000 tons of equipment.
- Expanded program quarterly performance reports and annual performance summaries to contractors participating in Early Retirement.

2. HVAC Commercial Quality Installation (QI) Program

(a) Program Description

The HVAC Commercial Quality Installation (QI) Program is a subprogram of the nonresidential statewide HVAC Program intended to continue the transformation of California's HVAC market. The Program is based on the assumption that energy and demand savings are achievable through installation practices that are in accordance with the highest appropriate industry standards applied to commercial HVAC equipment, such as those of the Air Conditioning Contractors of America (ACCA), Sheet Metal & Air Conditioning Contractors' National Association (SMACNA), and the American Society of Heating, Refrigerating, & Air-Conditioning Engineers (ASHRAE).

(b) Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the HVAC Commercial QI program:

- Provided over 250 days of classroom training to Commercial Quality Renovation (CQR) contractors, and over 1,018 hours of on-site coaching to CQR contractors and technicians.
- Delivered four (4) additional HVAC Commercial QI-specific Optimizing Economizer Efficiency Classes to 99 students.
- Tested and improved over 362 HVAC systems, including 109 kitchen exhaust

systems, at 62 different locations.

- Held one (1) contractor forum.
- Provided economizer training at industry conferences, such as that held by the Institute of Heating and Air Conditioning Industries (IHACI).⁵
- Participated in 94 hours of committee work with groups like the Western HVAC Performance Alliance.
- Began conducting a feasibility analysis of historical HVAC systems field data in support of a potential work paper for claiming savings.

3. HVAC Commercial Quality Maintenance (QM) Program

(a) Program Description

The HVAC Commercial Quality Maintenance (QM) Program addresses cooling and heating equipment maintenance practices to ensure that equipment is serviced per industry standards and that the maintenance effort supports the long-term strategic goal of transforming the trade from commodity-based to quality-based.

(b) Strategies Implemented in 2015

The program's focus in 2015 was to continue to bolster production by:

- Reviewing barriers outlined by participating contractors and customers and the CPUC, and
- Evaluating opportunities to improve the cost-effectiveness of the program.

Specific strategies implemented in 2015 included:

- Streamlined incentive processing for customers by reducing handoffs and touch points.
- Reduced third-party software support issues.
- Held stakeholder forums with customers, contractors, the CPUC, statewide IOUs, and the Western HVAC Performance Alliance to obtain input into the

⁵ See also Section IX.A, WE&T Centergies Subprogram, below.

assessment process.

- Planned and aligned administrative program improvements for launch in January 2016.

III. Statewide Industrial Energy Efficiency Program

The Statewide Industrial Energy Efficiency Program works with industry stakeholders to promote integrated energy management solutions to industrial end-use customers, such as printing plants, petroleum refineries, chemical industries, and water and waste water treatment plants. The program is designed to overcome the traditional market barriers to EE, while also advancing distributed generation and DR opportunities. The four (4) statewide subprograms described below — the Industrial Energy Advisor Program, the Industrial Calculated Energy Efficiency Program, the Industrial Deemed Energy Efficiency Program, and the Industrial Continuous Energy Improvement (CEI) Program — comprise the core products and services.

A. Industrial Energy Advisor Program

1. Program Description

The Industrial Energy Advisor Program offers a wide and comprehensive offering of audit services, including energy assessments, benchmarking, continuous energy improvement audits, and online "do-it-yourself" audits. This program also offers customers pump test services through its Pump Efficiency Services (PES) program component. Pump tests are designed to help customers make informed decisions about improving inefficient pumping systems. PES also provides targeted education, training, technical support, and renovation and/or replacement incentives.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Industrial Energy Advisor Program:

- Implemented its Business Energy Advisor (BEA) online "do-it-yourself" audit tool. This enhanced version of BEA covers not only commercial building types, but also small agricultural and industrial properties.

- Completed development of its OASIS tool (Onsite Audit Services Information System). OASIS is a sophisticated onsite auditing tool which will simplify the audit process, generate customized customer audit reports, create a simple pathway to transfer data to SCE's online application tool, and enable a greatly enhanced capability to analyze facility energy data.
- Implemented push audits, a cost-effective delivery model to provide proactive custom audits. Push audits were used to deliver audit recommendations to 17,700 (agricultural, commercial, industrial) service accounts in fulfillment of a CPUC compliance requirement.

B. Industrial Calculated Energy Efficiency Program

1. Program Description

The Industrial Calculated Energy Efficiency Program (advertised to customers as the "Customized Retrofit Offering") offers incentives for customized retrofit and retrocommissioning EE projects. The program also provides comprehensive technical and design assistance. Incentives are paid based on a project's energy savings and permanent peak demand reduction above baseline energy performance (that is, above the requirements of state-mandated codes, federal-mandated codes, industry-accepted performance standards, or existing energy performance, as applicable).

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Industrial Calculated Energy Efficiency Program:

- Implemented a \$2,200 minimum incentive project submission threshold to increase program cost-effectiveness.
- Integrated retrocommissioning into the Customized Retrofit Offering, which eliminated the need for a separate retrocommissioning program.
- Implemented a requirement to include project narratives for all large Customized Retrofit projects, in order to demonstrate program influence on all project

submissions, increase project quality, shorten time for Commission Staff reviews, and reduce the number of projects that require re-review or that may be declined.

C. Industrial Deemed Energy Efficiency Program

1. Program Description

The Industrial Deemed Energy Efficiency Program (advertised to customers as "Energy Efficiency Express Solutions") offers eligible business customers incentives that encourage common, standardized EE equipment retrofits. Deemed retrofit measures have fixed incentive amounts per measure unit, and are intended for projects that have well-defined energy and demand savings. Projects are typically identified through utility EE audits, customer communications with local SCE representatives, SCE contractors, and/or partnerships with equipment vendors and trade allies. Interior and Exterior LED Lighting and Controls products delivered the highest level of energy savings in 2015 in this program.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Industrial Deemed Incentive program:

- Conducted off-site training events for Customers' Authorized Agents (contractors or other energy service providers), who act on behalf of customers to submit a substantial percentage of program applications.
- Continued to offer a Comprehensive Bonus opportunity to encourage the development of projects with deeper energy savings and integrated DSM.
- Transitioned high volume lighting measures to the new, more cost-effective Midstream Lighting point of purchase program.⁶

⁶ See Section V.(B), Lighting Innovation Subprogram, below.

D. Industrial Continuous Energy Improvement (CEI) Program

1. Program Description

The Industrial CEI Program is a non-resource subprogram that offers strategic planning tools and resources which lay the groundwork for long-term integrated energy planning, and serves as a launching platform for other utility and non-utility programs and services. Through analysis, benchmarking, long-term goal setting, project implementation support, performance monitoring, and ultimately energy management certification, Industrial CEI aims to transform the market from a "project-to-project" approach to a continuous improvement pathway. The CEI approach supports the goals of the Strategic Plan, and also sets the stage for non-energy resource integration, such as GHG reduction and water conservation strategies.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Industrial CEI Program:

- The incorporation of an ongoing M&V phase for participants from the previous year. This included collecting and modeling data for baseline regression models, adopting a more hands-off approach that would allow for the collection of information.
- In addition to ongoing M&V, baseline modeling and data acquisition capable of supporting M&V were integrated into new engagements. Full access to energy data and energy driver data was made a prerequisite to participation.
- An assessment of energy management resources, or "organizational assessment," is an integral component of the CEI engagement. This function was fulfilled with the use of a proprietary assessment tool in previous program cycles. In 2015 the program implementer transitioned to a more flexible and robust assessment tool aligned with the Consortium for Energy Efficiency (CEE) "Minimum Elements of Strategic Energy Management" programs.

IV. Statewide Agriculture Energy Efficiency Program

The statewide Agriculture Energy Efficiency Program, aimed at providing a DSM solution to help agricultural customers save money and energy, offers strategic energy planning support, technical support (for example, facility audits and calculation and design assistance), and financial support through rebates and incentives. Targeted segments from the agriculture sector may include agricultural growers (crops, fruits, vegetables, and nuts), greenhouses, post-harvest processors (ginners, nut hullers, and associated refrigerated warehouses), dairies, water and irrigation districts and/or agencies, and food processing customers.

The statewide Agricultural Energy Efficiency Program includes the following subprograms: the Agriculture Energy Advisor Program, the Agriculture Calculated Energy Efficiency Program, the Agriculture Deemed Energy Efficiency Program, and the Agriculture Continuous Energy Improvement Program.

A. Agriculture Energy Advisor Program

1. Program Description

The Agriculture Energy Advisor Program offers wide and comprehensive audit services, including energy assessments, benchmarking, and basic, integrated, retrocommissioning, continuous energy improvement audits, and online "do-it-yourself" audits. This program also offers customers pump test services through its Pump Efficiency Services (PES) program component. Pump tests are designed to help customers make informed decisions about improving inefficient pumping systems. PES also provides targeted education, training and technical support, and renovation and/or replacement incentives.

2. Strategies Implemented in 2015

In 2015 SCE implemented the following strategies for the Agriculture Energy Advisor Program:

- Implemented its Business Energy Advisor (BEA) online "do-it-yourself" audit tool. This enhanced version of BEA covers not only commercial building types, but also small agricultural and industrial properties.

- Completed development of its OASIS tool (Onsite Audit Services Information System). OASIS is a sophisticated on-site auditing tool which will simplify the audit process, generate customized customer audit reports, create a simple pathway to transfer data to SCE's online application tool, and enable a greatly enhanced capability to analyze facility energy data.
- Implemented push audits, a cost-effective delivery model to provide proactive custom audits. Push audits were used to deliver audit recommendations to 17,700 (agricultural, commercial, industrial) service accounts in fulfillment of a CPUC compliance requirement.
- Partnering with the California Association of Winegrape Growers and the Wine Institute, funded and directed two (2) successful workshops. SCE gained the support of the Statewide Agricultural team to join in this effort. The workshops, held in Temecula and Buellton, were unique in focusing on EE technologies which provide partial or full solutions to sustainability issues faced by winegrape growers.
- Performed over 4,800 pump tests targeting agricultural customers in the Central Valley area, as the severe drought situation forced many agricultural growers to drill new and/or deeper wells to keep their crops alive.

B. Agriculture Calculated Energy Efficiency Program

1. Program Description

The Agriculture Calculated Energy Efficiency Program (advertised to customers as the "Customized Retrofit Offering") offers incentives for customized retrofit and retrocommissioning EE projects for agricultural customers. The program also provides comprehensive technical and design assistance. Incentives are paid based on energy savings and permanent peak demand reduction above baseline energy performance (that is, above the requirements of state-mandated codes, federal-mandated codes, industry-accepted performance standards, or existing energy performance, as applicable). New offerings provide a framework to encourage emerging technologies and deeper, more comprehensive retrofits.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Agriculture Calculated Energy Efficiency Program:

- Implemented a \$2,200 minimum incentive project submission threshold to increase program cost-effectiveness.
- Integrated retrocommissioning (RCx) into the Customized Retrofit Offering, which eliminated the need for a separate retrocommissioning program.
- Conducted off-site training events for Customers' Authorized Agents (contractors or other energy service providers), who act on behalf of customers to submit a substantial percentage of program applications.
- Continued to offer a Comprehensive Bonus Opportunity to encourage the development of projects with deeper energy savings and integrated DSM.
- Implemented a requirement for project narratives for all large Customized Retrofit projects to demonstrate program influence on all project submissions, increase project quality, reduce cycle time for CPUC Energy Division reviews, and decrease the number of declined projects.

C. Agriculture Deemed Energy Efficiency Program

1. Program Description

The Agriculture Deemed Incentive Program (advertised to customers as "Energy Efficiency Express Solutions") offers eligible agricultural customers incentives that encourage common, standardized EE equipment retrofits. Deemed retrofit measures have fixed incentive amounts per measure unit, and are intended for projects that have well-defined energy and demand savings. Projects are typically identified through utility EE audits, customer communications with local SCE representatives, SCE contractors, and/or partnerships with equipment vendors and customers' authorized agents. In this program, pumping equipment, variable frequency drive (VFD) products, and optimization delivered the highest level of energy savings in 2015.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Agriculture Deemed Energy Efficiency Program:

- Conducted several off-site training events for Customers' Authorized Agents (contractors or other energy service providers), who act on behalf of customers to submit a substantial percentage of program applications.
- Continued to offer a Comprehensive Bonus opportunity to encourage the development of projects with deeper energy savings and integrated DSM.

D. Agriculture Continuous Energy Improvement (CEI) Program

1. Program Description

The Agriculture CEI Program is a non-resource subprogram that offers strategic planning tools and resources which lay the groundwork for long-term integrated energy planning, and serves as a launching platform for other utility and non-utility programs and services. Through analysis, benchmarking, long-term goal setting, project implementation support, performance monitoring, and ultimately energy management certification, CEI aims to transform the market from a "project-to-project" approach to a continuous improvement pathway. In support of the Strategic Plan, a CEI approach also sets the stage for non-energy resource integration, such as GHG reduction and water conservation strategies.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Agriculture Continuous Energy Improvement Program:

- The 2015 program did not involve new engagements but continued the review, evaluation, and analysis of the engagements begun during the 2013-2014 program period. Two (2) agricultural facilities were engaged in an effort to determine the issues, needs, and priorities of the agricultural sector for energy efficiency. These two facilities are similar to other agricultural operations involved with growing crops. The availability of water is currently the overriding consideration for these

facilities. Energy is primarily used for water pumping and is of much less concern compared to water.

- Due to the limited opportunities for energy improvements in agricultural growing operations, one-on-one CEI engagements were difficult to justify. Future agricultural CEI efforts should be focused on large crop processing facilities and agricultural cooperatives.

V. Statewide Lighting Program

The 2015 Statewide Lighting Program includes three (3) subprograms:

- Primary Lighting;
- Lighting Market Transformation; and
- Lighting Innovation.

The Statewide Lighting Program facilitates market adoption and transformation for advanced lighting products through a number of activities, including:

- Assessment of pre-commercialized lighting technologies.
- Pilot programs for advanced lighting technologies in the early stages of commercialization.
- Incentives for lighting measures that have reached a suitable level of commercialization.

Following are descriptions of the Lighting subprograms and the strategies employed in 2015.

A. Primary Lighting Program

1. Program Description

This subprogram offers upstream rebates to reduce the cost of EE lighting products. It introduces new EE lighting products each year, and strives to influence the future purchasing and installation behaviors of residential customers. An array of product types, models, and technologies are offered, featuring screw-in LEDs and advanced compact fluorescent lamps (CFLs).

2. Strategies Implemented in 2015

A prevailing strategy for 2015 was to require LED products within the program to demonstrate performance and packaging characteristics consistent with the California Quality LED Specification. This was accomplished by requiring products to be of substantially higher color quality than the minimum requirement, and by adding products compliant with the California specification as they became available. With the advent of relatively low-cost, efficient LEDs, the program employed the strategy of balancing the measure mix between LEDs and CFLs to achieve targets while aggressively promoting LEDs. Using right-sized incentives, the program opened new market sectors in 2015 for which high-quality LEDs had previously been infeasible. In previous years, big-box, home improvement, and hardware were the predominant sectors, but in 2015, discount, grocery, and other channels participated at a significant level, so that quantities jumped from approximately 800,000 in 2014 to over 3.1 million in 2015.

B. Lighting Innovation Program

1. Program Description

The Lighting Innovation subprogram evaluates products or program approaches new to the market, which have the potential of eventually entering the Primary Lighting Program or Commercial, Industrial, and Agricultural EE Programs. Lighting Innovation trials, pilots, and studies are administered:

- To collect data on the sales, installation, marketing, and other business aspects of the lighting industry;
- To determine data-driven recommendations; and
- To influence future program designs.

Pilot programs are conducted, when applicable.

2. Strategies Implemented in 2015

In 2015, SCE completed trial study showcase and demonstration projects to test the viability of new product and program approaches:

- SCE's **Midstream Pilot Program** transitioned to an independent Midstream Lighting Program in 2015:
 - Launched second phase of the Midstream Pilot Program in July of 2015 with 16 participating distributors.
 - Enhanced data collection requirements to include end-user utility account information in the Midstream Lighting Program.
 - Developed an automated system to track and process Midstream Lighting Program invoices, making the program scalable.
- SCE's **Sustainable Office Lighting Trial Program**, aka Advanced Lighting & Controls System (ALCS) Pilot and Study Plan:
 - The Sustainable Office Lighting Trial Program was implemented in January, 2015. The Pilot was active throughout 2015 (and continuing in 2016), collecting quantifiable project data from lighting control installations by CALCTP-certified and non-CALCTP-certified contractors in order to support CPUC directives.
 - Per CPUC directives, 40 projects have participated in the Sustainable Office Lighting Trial Program. Most of the projects are already in the Engineering Analysis phase. A third-party engineering firm was hired to conduct engineering support activities, including pre- and post-installation inspections, desktop engineering reviews, and validation of the energy savings derived from the installed systems.
- **LED Back-Lit Menu Board Trial Program and Study:**
 - The LED Back-Lit Menu Board Trial Program and Study ("Project") is an effort to explore the market potential of the sign industry. Based on prior studies, there is a large savings potential from signs:
 - * The base case is generally low-efficiency fluorescent lamps and magnetic ballasts;
 - * LEDs are generally much more efficient; and

- * Interior signs are generally on during peak hours.
- The Project has two (2) main objectives:
 - * Explore new program delivery models and market channels for utility incentives and education; and
 - * Gather technical and market information to help inform a more accurate workpaper for LED menu board signs.
- The Project conducted outreach via a third-party administrative support team that visited restaurants and other establishments to promote the incentive program and gain participation from restaurant owners. There has been little uptake due to sign manufacturers and contractors attending to other projects. However, the Project is still active, and a few manufacturers have committed to increase participation in 2016.
- **Energy Upgrade California Program LED Lighting Demonstration:**
 - The Energy Upgrade California (EUC) Program LED Lighting Demonstration was initiated to encourage contractors and homeowners to participate in the EUC Program. The Demonstration engaged contractors to install LED lighting in the homes of over 400 SCE customers to allow them direct experience of the benefits of efficient lighting.
 - The purposes of the demonstration were:
 - * To increase homeowner and contractor participation in EUCA Home Upgrade projects, and
 - * To demonstrate a comprehensive approach by using LED lighting to motivate both homeowner participation and contractor engagement.

C. Lighting Market Transformation (LMT) Program

1. Program Description

The Lighting Market Transformation (LMT) subprogram implements a statewide program strategy that coordinates IOU efforts to promote efficient lighting technologies and best practices in California. The program entails development of innovative data-

driven program strategies to adapt utility lighting programs to the ever-changing energy and lighting markets, in support of the Strategic Plan. The LMT Program tracks and coordinates lighting market transformation activities, provides collaboration opportunities for utilities, government, and industry, and oversees the progress of lighting solutions within utility programs, such as the Emerging Technologies, Lighting Innovation, Primary Lighting, Codes & Standards, and Commercial, Industrial, and Agricultural EE Programs. The LMT Program is particularly instrumental in developing Lighting Innovation Program concepts, trials, and demonstrations, and in helping to ensure the efficient progression of lighting solutions into and out of customer EE programs.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the LMT Program:

- Adjusted LMT Program activities and work products to better align with a new Market Transformation framework.
- Updated the Lighting Solutions Workbook to better characterize the market and savings potential for Market Transformation planning activities. Market Transformation Indicators (MTIs) were developed for the LMT Program to track changes in the California lighting market over time.
- Initiated discussions and plans for a 2015 update to the Lighting Activity Workbook. The Statewide LMT team gathered ideas from various utilities and EE organizations across the West Coast to increase the value of this workbook and reduce the cost of compiling it.
- Led the LMT Stakeholder Meeting at PG&E's Pacific Energy Center on October 19-20, 2015. As the statewide lead, SCE's LMT Program team developed the agenda and the discussion topic list, booked the speakers, invited the attendees, and coordinated statewide with Commission Staff.

- Hosted a West Coast Utility Lighting Team (WCULT)⁷ Meeting (May 13-14, 2015) and participated in an autumn WCULT Meeting (September 17-18, 2015).
- Presented the program design and results of the Advanced Lighting Control Systems (ALCS) Pilot Program to other program implementers at the Consortium of Energy Efficiency (CEE) Winter Program Meeting (January 14-15, 2015, in Long Beach) to share best practices and obtain feedback from other CEE members.
- Participated in the U.S. Department of Energy (DOE) Advanced Lighting Controls Planning (ALCSP) Meeting to help develop DOE's advanced lighting controls efforts at the national level.
- Participated in CEE Lighting for Tomorrow Judging in June. Lighting for Tomorrow encourages manufacturers to develop well-designed, energy-efficient lighting products with a specific goal of increasing the availability and market adoption of ENERGYSTAR[®]-certified residential lighting products.
- Completed Residential and Commercial Strategy Briefs (shared with the CPUC Energy Division), describing specific lighting market characteristics and barriers, and recommending actions to help transform the lighting market towards the objectives of the California Long-Term Energy Efficiency Strategic Plan (CLTEESP).

Note: Details regarding Statewide Lighting Program efforts will be provided in the June, 2016 Lighting Market Transformation Annual Report.

VI. Statewide Finance Program

The Statewide Finance Program is designed to provide customers additional options for financing EE projects. It includes three (3) subprograms:

⁷ WCULT is a consortium of lighting EE program sponsors and stakeholders from California, Idaho, Montana, Oregon, Washington, and beyond. The purpose of the team is to clarify different program roles and explore ways to consolidate and share data.

- On-Bill Financing (OBF);
- American Reinvestment and Recovery Act (ARRA)-Originated Financing; and
- New Finance Offerings (Pilots).

The programs are offered in conjunction with other core SCE programs to stimulate and enable higher levels of customer participation.

A. On-Bill Financing (OBF) Program

1. Program Description

SCE's OBF Program offers zero-interest financing for the installation of qualifying energy-efficient lighting, refrigeration, and air conditioning measures. Effective in 2015, OBF is also permitted to finance retrocommissioning measures. Loans are available to qualifying nonresidential customers, including commercial, industrial, government, and institutional customers, and customers repay their loan as a line item on their electric bill. This program supports the Strategic Plan's commercial sector goals and strategies. OBF is offered with other SCE programs, including statewide, Third Party, and Local Government Partnership offerings. OBF funded a total of 215 projects, representing \$9.67 million in loans, during 2015.⁸

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the OBF Program:

- Developed an OBF Customer Facing Video. The new video was developed to promote the OBF Program as well as provide an overview of the program rules. Hosted on the SCE / OBF Landing Page (www.on.sce.com/obf), all customers are now required to view the 3-minute video before submitting new loan applications.
- The OBF loan budget is now published on the SCE / OBF Landing Page, based upon customer requests. Budget information, updated monthly, provides a high-level overview of the availability of OBF funds.

⁸ Figures represent both new projects initiated in the 2013-2014 cycle, and projects committed in the 2010-2012 cycle that were installed in 2015.

- The OBF Program team has also been working to further improve program operations and program integrity. Efforts included:
 - Upgrading the utility billing system to improve customer experience, and
 - Further automating loan servicing operations, which reduced processing times by an additional 15% overall. The end-to-end process now takes less than 53 days on average, down from 62 days.
- Beginning in August 2015, the OBF Team, with several cross-departmental stakeholders, brainstormed a DSM optimization strategy involving the OBF Program: a 50% to 100% incentive reduction for customers participating in both the Incentive and Financing Programs. We intend to seek regulatory approval in the 3rd Quarter of 2016.

B. The ARRA-Originated Financing Program

1. Program Description

The ARRA-Originated Financing Program provides ratepayer funding to entities that operate ARRA-funded finance programs. This program was designed to encourage the implementation of comprehensive EE retrofits by providing access to affordable financing options.

The EmPower SBC Program provides unsecured loans for single-family homeowners implementing home energy upgrades. EmPower SBC is administered by the County of Santa Barbara and is jointly co-funded by PG&E, SCE, and SCG. The program receives funding for various activities such as marketing and workforce training within Santa Barbara, Ventura, and San Luis Obispo Counties, and provides credit enhancement funds through a loan loss reserve (LLR).⁹ The program leverages both ARRA and IOU ratepayer funding to create a partnership with Santa Barbara County, all eight (8) incorporated cities within the County, the EUC program, and two (2) competitively-selected local credit unions.

⁹ An LLR provides reimbursement to a financial institution only in the event of a default on a qualifying loan, up to a given percentage on a portfolio of loans. IOUs provide LLR funds and set eligible energy efficiency measures. Financial intuitions provide capital for EE loans.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies:

- SCE, SCG, and PG&E executed amendments to the agreements, agreeing to continue and fund the emPower SBC Program in 2016.
- The emPower SBC Program financed four (4) loans for the entire year, with a total loan amount of \$103,040.
- SCE committed to work with the emPower SBC Program to find ways of making the program more cost-effective. Success factors recommended to the county will help the emPower SBC Program reach goals set by Santa Barbara County, during the period of January 2016 through June 2016. The emPower SBC Program continues to be evaluated for cost-effectiveness and for determining SCE's future program participation. SCE will continue to work with Santa Barbara County on discovering ways to make the program more effective in 2016.

C. New Finance Offerings (Pilots)

1. Program Description

In accordance with the Decision implementing 2013-2014 Energy Efficiency Financing Pilot Programs (D.13-09-044), the IOUs, along with the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA, a subdivision of the California Treasurer's office serving as the pilots' administrator), are developing statewide financing pilot programs that:

- Offer scalable and leveraged financing products, and
- Test market incentives for attracting private capital through investment of ratepayer funds.

The pilots include the following On-Bill Repayment (OBR) programs:

1. Small Business OBR Loan Program.
2. Small Business OBR Lease Program.
3. Nonresidential OBR Without Credit Enhancements Program.

4. Master-Metered Multifamily OBR Program.¹⁰

These pilots are intended to test whether payment via the utility bill increases debt service performance across market sectors.

The pilots also include two (2) Off-Bill programs:

5. Residential Energy Efficiency Loan (REEL) Assistance Program (formerly known as the Single Family Loan Program).
6. Off-Bill Small Business Lease Providers Program.

The pilots will include various forms of credit enhancements for residential properties and small businesses. The credit enhancements are expected to provide additional security to third-party lenders and private capital so they can extend or improve credit terms for EE projects.

2. Strategies Implemented in 2015

In 2015, SCE worked with CAEATFA and other IOUs to implement the following strategies for the New Finance Offering program:

- The Finance Pilots require multiple entities — CAEATFA, a Master Servicer, a Trustee, Financial Institutions (FIs), the IOUs, and the Center for Sustainable Energy (CSE) — for a successful launch. The Pilots were expected to launch in 2013, but were delayed because CAEATFA did not receive legislative budget approval to act as the California Hub for Energy Efficiency Financing (CHEEF) and Program Administrator until July 1, 2014. The complexity of the Finance Pilots and the requirements to launch them have led to additional delays, so the current target launch dates are:
 - 3rd Quarter 2016 for the Off-Bill REEL Assistance Pilot Program, and
 - Early 2nd Quarter 2017 for the Small Business Off-Bill Lease and the Small Business OBR Lease and Loan Pilot Programs.
- SCE supported CAEATFA in the following ways:

¹⁰ A fifth pilot, the Residential EE Finance Line Item Charge (EEFLIC) program, will operate in PG&E's service territory only.

- Reviewing and commenting on contracts between Concord Servicing and US Bank to serve, respectively, as the Master Servicer and Trustee of the Credit Enhancement funds, and
- Assisting CAEATFA in implementing a public workshop and developing Regulations for the Off-Bill REEL Assistance Program.
- SCE worked with CAEATFA and the other IOUs to refine the list of measures eligible for financing and included the list in the online tool, "Eligible Energy Efficiency Measures" (EEEMs). Both the list and the online tool will continue to be refined in 2016.
- SCE worked with the other IOUs and the Master Servicer, Concord Servicing, to develop a Data Exchange Protocol which will govern the transfer of customer loan information between the IOUs and Concord. SCE's Information Technology (IT) department developed the code to modify SCE's Customer Service System (CSS) in order to allow adding the OBR loan charge to the utility bill. Implementation of the code is pending testing with Concord Servicing.
- SCE filed a Tier 2 IT Advice Letter delineating the system changes required to implement OBR and their associated costs.
- SCE supported the Center for Sustainable Energy (CSE) in developing a marketing campaign and web page, "Energy Upgrade California > Go Green Financing," for the Off-Bill REEL Assistance Program.

VII. Statewide Codes & Standards (C&S) Program

1. Program Description

The Statewide Codes and Standards (C&S) Program saves energy on behalf of ratepayers by influencing appliance and building standards and code-setting bodies, such as the California Energy Commission (CEC) and the U.S. Department of Energy (DOE), to strengthen and advance energy efficiency regulations by:

- Continuous improvements in and advancement of energy regulations,

- Improving compliance with existing codes and standards,
- Assisting local governments in developing ordinances that exceed statewide minimum requirements, and
- Coordinating with other programs and entities to support the State's ambitious policy goals.

The advocacy and compliance improvement activities of the Codes and Standards Program extend to virtually all buildings and potentially all appliances sold in both California and beyond.

2. Key Initiatives

- In 2015, SCE continued to work on the development of Title 24 Codes and Standards Enhancement (CASE) studies, including code enhancement proposals and stakeholder development, in support of the 2016 Building Energy Efficiency Standards, which were formally adopted in 2015, along with the Revised 2016 Lighting Alteration Provisions adopted in November, 2015. SCE has already begun research activities in support of the 2019 code updates.
- SCE continued to work on updates to Title 20 CASE studies in support of the Phase 1 rulemaking, and provided responses to all federal appliance standards rulemakings that impact California, including one of the largest energy savings standards that focuses on packaged rooftop air conditioning for low-rise commercial buildings.
- SCE continued extensive education and training for building code compliance improvement. The program consolidated compliance training for HVAC, lighting, and other Title 24 measures and expanded into appliance standards.

3. Successful Program Strategies

SCE's support for state and federal building codes and appliance standards continues to move California towards residential Zero Net Energy (ZNE) by 2020, nonresidential ZNE by 2030, and the Governor's goal to double energy efficiency savings by 2030.

Compliance improvement activities have contributed to Title 24 compliance rates that exceed 100%,¹¹ and compliance rates for appliance standards between 80% and 90%.

4. Impact on Savings

Building efficiency and appliance standard advocacy efforts, and compliance rates that are higher than expected, have resulted in significant energy savings attributable to the C&S Program. Net C&S savings are approximately half of SCE's total net portfolio savings.

5. Implementation Challenges

Increased rigor around the Codes & Standards Enhancement (CASE) studies has required additional data collection by the C&S program team. These efforts have included field studies, product testing, and test procedure creation. This has resulted in stronger CASE studies and more stringent standards.

- SCE continues to drive improvements to meet increasingly rigorous data requirements in CEC & DOE rulemakings. Greater rigor is achieved by increasing research (lab testing, field surveys, etc.) which increases costs. The complexity of building codes and the number of appliance standards continue to increase. DOE standards for new product categories continue to increase the preemption of state appliance standards and to constrain prescriptive baselines for building codes, thereby limiting opportunities for California to require increased cost-effective savings.
- The 2013 Title 24 Code, which became effective in 2014, has been difficult to implement due to late availability of software, software glitches, and subsequent software updates. In addition, the 2013 version had one of the largest increases in stringency of any previous code cycle.
- The CEC made the decision early in the 2013 Title 24 Code update to implement a new platform for modeling buildings. This new platform — including CBECC-Res for residential buildings and CBECC-Com for

¹¹ Building codes have Compliance Adjustment Factors that indicate the percentage of achieved savings as compared to those prescribed by the corresponding standard.

commercial buildings¹² — was a major change for the industry. Title 24 Code complexity necessitates many additional work aids, such as fact and trigger sheets, to explain code intricacies to users.

- There was resistance from the industry on nonresidential lighting standards triggered by remodels, additions, and gut rehabilitations. The new requirements generate cost-effective savings, but they changed the normal practices of lighting retrofit contractors, causing some consternation.
- There was also resistance from the nonresidential lighting retrofit industry on the lighting alterations provisions. This industry used the 2016 Title 24 rulemaking to propose potentially less stringent changes to the code. SCE worked with industry and the CEC to develop new options that were ultimately adopted into the 2016 Title 24 code. SCE will need to work closely with the CEC and others to help ensure that these new options are implemented correctly.
- The audience requiring training has increased and now includes architects, designers, commissioning agents, acceptance test technicians, and electrical field inspectors. This has required an increase in the content of the training modules.

6. Opportunities Moving Forward

The C&S Program has several opportunities to improve the quality of advocacy in support of state and federal building codes and appliance standards through increased primary research. The Program will:

- Achieve significant energy savings by expanding support for appliance standards, in addition to further expanding Title 24 education and training, tools, and EnergyCodeAce.com capabilities.
- Make targeted efforts, including reach codes and code compliance efforts, in SCE's Preferred Resources Pilot (PRP) area and other constrained areas of SCE's service territory.

¹² CBECC-Com also included the transition of the simulation engine for DOE-2.1E to EnergyPlus.

- Focus on comprehensive demand response (DR) code language for buildings and appliances that better reflect current and future needs, such as fast and flexible DR, locational DR, response to over-generation, and the capability to participate in California Independent System Operator (CAISO) markets.
- Implement recommendations from the "software roadmap" to improve the capabilities of compliance software, and incorporate applicable code sections of ASHRAE and International Code Council (ICC) standards.
- Focus on development and update of Time Dependent Valuation (TDV) values to reflect the loading order of Distributed Energy Resources (DER) appropriately and to support the achievement of ZNE goals.
- Develop new reach codes based on 2016 building codes, now that software has stabilized.
- Involve Compliance Improvement during the initial advocacy stage of code development so as to improve compliance rates and make implementation simpler.

A. Appliance Standards Advocacy Subprogram

The Appliance Standards Advocacy subprogram targets both state and federal standards and test methods: improvements to Title 20 Appliance Efficiency Regulations by the CEC, and improvements to Federal appliance regulations and specifications by the USDOE, EPA ENERGYSTAR[®], and the Federal Trade Commission. Advocacy activities include developing Title 20 code enhancement proposals, participating in the CEC public rulemaking process, submitting comment letters based on IOU research and analysis in federal standards proceedings, and participating in direct negotiations with industry. Additionally, the program monitors state and federal legislation and intervenes, as appropriate.

1. Subprogram Highlights

(a) Advocated Changes to Title 20 Appliance Efficiency Regulations

Activities included the following:

- Engaged in all CEC webinars, workshops, and business meetings on

"Phase 1" topics rulemaking, and represented the statewide C&S Program's positions.

- As the statewide C&S leader for Title 20 Phase 1 activities (over a dozen rulemaking proceedings), SCE led, coordinated, and responded to various data requests from CEC for successful rulemaking activities. On April 8, 2015, CEC adopted efficiency regulations on toilet, urinal, and faucet air filter labeling and on dimming ballasts.
- Strategically engaged various stakeholder meetings on CASE topics, guided discussions, and advocated for increased efficiency standards on LED lamp quality, small-diameter directional lamps, computers, and displays.

(b) Advocated Changes to Federal Appliance Standards

Activities included the following:

- Actively participated in USDOE appliance rulemaking, submitting 53 rulemaking advocacy letters during 2015.
- Participated in USDOE's Appliance Standards and Rulemaking Federal Advisory Committee, on behalf of statewide C&S programs, on standards for walk-in refrigerators, freezers, and miscellaneous refrigeration products, and successfully delivered negotiated "term sheets" to the DOE for final rulemaking.
- Statewide C&S programs submitted three (3) comment letters, attended 11 stakeholder and working group meetings, and successfully negotiated standard levels for packaged air conditioning and heat pumps, which resulted in achieving the biggest appliance energy savings in U.S. history.
- IOU Advocacy letters issued in previous years influenced rulings on six (6) federal measures taking effect as law in 2015:
 - * Small electric motors,
 - * Residential central air conditioners,
 - * Residential clothes dryers,
 - * Residential clothes washers,

- * Residential water heaters, and
- * Residential weatherized gas furnaces.

(c) Advocated Changes to ENERGYSTAR® Standards:¹³

- SCE completed a "top-down strategy for future code development" by initiating and documenting a "Look Ahead" study which identified appliance technology trends and C&S program opportunities, and a white paper on updating the current C&S savings attribution model to include various "voluntary standard" development activities (of organizations such as ASHRAE and ENERGYSTAR®) which directly influence U.S. DOE rulemakings.

B. Building Codes Advocacy Subprogram

The Building Codes Advocacy subprogram primarily targets improvements to Title 24 Building Efficiency Regulations that are periodically updated by the CEC. The subprogram also seeks changes to national building codes that impact California building codes through ASHRAE, ICC, and other national groups. Advocacy activities include, but are not limited to, development of code enhancement proposals and participation in public rulemaking processes. The C&S Program may coordinate with or intervene in ratings organizations that are referenced in Title 24 (for example, the National Fenestration Rating Council and the Cool Roof Rating Council). These efforts support the Governor's goal to double building efficiency by 2030.

1. Subprogram Highlights

- Began developing a Compliance Software Roadmap in 2015 (still in progress) to look at the future needs of compliance software in light of new building system technologies, advances in simulation engines, the need for "open" software, and the need for simpler interfaces and more accurate results. An analysis was performed to identify the gaps between the current state of existing code compliance software, which has limited capabilities, compared to the full capabilities of existing energy modeling software. Through methods described under the Planning and Coordination Subprogram (below) for compliance

¹³ Including "connected" thermostats and electric vehicle supply equipment (EVSE).

software, a software working committee will be created to guide the framework and direction of compliance software.

- Completed a "top-down strategy" for future code development by initiating and documenting a "Look Ahead" study which identified building technology trends and C&S program opportunities, and a white paper to develop a framework that would identify:
 - Critical code aspects that require increases in stringency to meet ZNE goals, and
 - Barriers and possible mitigation strategies that block the path to cost-effective ZNE buildings.
- Leveraged Emerging Technology Program (ETP) ZNE pilots and Irvine Smart Grid Demonstration coordination to enhance building code advocacy efforts.
- Supported post-adoption prerequisites to improve future implementation of 2013 Title 24 building energy and CALGreen standards. Activities included improvements to the Performance Method software, development of a software training program, and edits to the CEC Residential and Nonresidential Title 24 Compliance Manual.
- Commenced analysis of potential measures in preparation for the 2019 Title 24 code cycle.
- Conducted efforts to harmonize state and national building codes. Activities included a major rewrite of ASHRAE Standard 189.1¹⁴ to allow a "dual path" approach, where one path allows above-federal-minimum equipment efficiencies without violating federal preemption law. This standard also adopted bi-level parking lot lighting controls similar to those in 2013 Title 24 in alignment with ASHRAE Standard 90.1.¹⁵ The C&S team has been working with the national energy code development process to assure that daylighting code requirements are aligned between the two standards. In conjunction with Pacific Northwest

¹⁴ Standard for the Design of High Performance Green Buildings.

¹⁵ Energy Standard for Buildings Except Low-Rise Residential Buildings.

National Laboratory (PNNL), the C&S team is involved with the process to require card key controls for lighting and HVAC in hotel and motel guest rooms.

C. Compliance Improvement Subprogram

The C&S Compliance Improvement Subprogram supports improvement of compliance with both Title 24 building codes and Title 20 appliance standards by targeting market actors throughout the entire compliance chain, providing education, outreach, and technical support and resources. Compliance improvement activities complement advocacy work by maximizing verified savings from codes and standards that persist over time.

A major step forward in improving compliance involved organizing a continuing forum for cooperative exploration of potential solutions to today's significant compliance issues, including determining training needs and how to best meet them, and recognizing when training is not uniquely the solution. The Compliance Improvement Advisory Group (CIAG) provides a "boots on the ground" perspective on current compliance issues and potential solutions, captured in white papers to help guide the Statewide Compliance Improvement team in their efforts to improve energy savings.

Anecdotal and programmatic indicators show that building energy code compliance documentation produced by energy analysts across the State is inconsistent and sometimes inaccurate. SCE supported the deployment of the Certified Energy Analyst (CEA) Exam program in 2015. The CEA exam provides a pathway to improved skills, knowledge, and performance for those who help the building community understand energy code requirements, create models, predict energy use under code constraints, and document compliance with the energy code.

1. Subprogram Highlights

- The CIAG held quarterly meetings to identify prominent compliance issues and recruit smaller CIAG teams to develop and publish the following White Papers on the CIAG website:
 - White Paper #13: Reducing Transactional Costs
 - White Paper #14: Simplifying the Code

- White Paper #15: What Needs to Change for the Energy Standards to Better Address the Existing Building Market and the Constraints of Working Within an Existing Building?
- The CEA Exam program achieved the following deliverables:
 - Deployed and scored a total of 13 residential CEA exams held throughout the State, with a total of 148 participants. As of December 31, 2015, 132 certified residential CEAs had passed the exams.
 - Deployed and scored a total of five (5) nonresidential CEA exams held throughout the State, with a total of 63 participants. As of December 31, 2015, 16 nonresidential CEAs were certified.
- Coordinated development and implementation of code compliance classes statewide to improve knowledge of HVAC, lighting, and design-related topics.
- Deployed extensive compliance training, consistent with statewide standards, for building department officials in Southern California.
- Provided Title 24 educational videos to Building Owners and Managers Association (BOMA), in partnership with Southern California Gas (SCG) and the Los Angeles Dept. of Water & Power (LADWP), to explain and promote compliance with the Energy Code, particularly for tenant improvement projects.
- Offered energy code training in-person and online to market actors in the compliance chain, including:
 - Decoding Talks: Monthly 90-minute online discussions on specific topics targeted to building department personnel and contractors.
 - Online Learning Portal: A website providing building industry practitioners prescribed paths leading to training and tools.
 - Virtual Classes: Instructor-led, interactive, web-based classes eliminating travel time and expenses.
- Developed and maintained printed and online tools to aid compliance improvement practitioners in implementing codes, including:

- Forms Ace: Aids in determining which compliance forms are applicable to a specific project.
- Installation Ace: A "field guide" to assist in identifying proper installation techniques and visual aids for some components commonly installed incorrectly.
- Reference Ace: Helps navigate the building codes and appliance standards using keyword search capabilities, hyperlinked tables, and related sections.
- Crack the Code Workshops: Workshop packages to help Building Departments facilitate trainings for local installation contractors.
- Launched an outreach campaign to increase consumer and building industry awareness of code requirements, and the new EnergyCodeAce website designed to serve as a one-stop shop for compliance tools, resources, and learning portal access.
- Created print and online resources, including:
 - Trigger Sheets: Measure-based documents that identify and define the code requirements triggered when a change is made to a building.
 - Fact Sheets: Documents that define the essential considerations and requirements (including required forms) for specific energy code measures.
 - Checklists: Documents that provide step-by-step guidance for plans checks and field inspections.
- Developed a new Title 24 Summary Compliance form (NRCC-PRF-01-E), using input from practitioners and building departments, to reduce complexity and provide guidance on submitting required forms for a given building project.
- Commenced outreach and education efforts for Title 20 and federal appliance standards.

D. Reach Codes Subprogram

In addition to mandatory minimum-level codes, the C&S program advocates for the development and implementation of "Reach Codes" that may be adopted by local jurisdictions or agencies as ordinances that exceed statewide Title 24 minimum energy efficiency requirements for new buildings, additions, or alterations. The Reach Codes Subprogram provides technical support to local governments that wish to adopt these types of ordinances (and that may also wish to adopt residential or commercial energy conservation ordinances for existing buildings), including:

- Research and analysis for establishing performance levels and cost-effectiveness relative to Title 24 by Climate Zone,
- Drafting of model ordinance templates for regional consistency, and
- Assistance with completing and expediting the application process required for approval by the CEC.

The subprogram also monitors and/or participates in a wide range of activities or proceedings that have direct or indirect impacts on California regulations. This includes, but is not limited to:

- ASHRAE¹⁶ code development,
- Voluntary standards such as green building codes, and
- Ratings organizations such as the Cool Roof Rating Council (CRRC), National Fenestration Rating Council (NFRC), Collaborative for High Performance Schools (CHPS), and the United States Green Building Council (USGBC).

Additionally, the subprogram intervenes in ENERGYSTAR[®] and other voluntary activities to shape future regulations and support coordination with voluntary programs.

1. Subprogram Highlights

- Commenced the development of a framework to support the efforts of the City of Santa Monica toward adopting a residential ZNE Reach Code Ordinance pursuant

¹⁶ Formerly known as the American Society of Heating, Refrigerating, and Air-Conditioning Engineers.

to CalGreen's Tier 3 ZNE voluntary residential measure. The framework includes the following elements:

- Establishing and managing the steering committee for ongoing dialogue, including coordinating with the statewide Reach Code team and CEC to avoid any duplication of effort.
- Supporting performance-based building energy code compliance modeling scenarios.
- Addressing the role of renewables in the Title 24, Part 6 building energy code.
- Addressing structural limitations to Title 24, Part 6 and developing rule sets for calculating an Energy Design Rating including unregulated load assumptions, and other key issues.
- Commenced efforts to support documenting reach code savings that may be counted towards local government climate action plan goals. Activities included initiating the development of a secure cloud-hosted system that would allow participating Reach Code jurisdictions to import data from the Performance Certificate of Compliance (PERF-1C) XML files generated by the California Building Energy Code Compliance software for both residential and nonresidential projects (CBECC-RES and CBECC-NONRES, respectively). This database allows the IOUs to report aggregated and detailed modeled energy savings and electric demand and greenhouse gas reductions (GHG). Completion of the secure cloud-based system will allow the various jurisdictions access to their own aggregated savings and reduction data.
- Completed preparation of cost-effectiveness studies to support the adoption of residential and nonresidential Cool Roof Reach Code ordinances by any interested jurisdiction in all Climate Zones statewide. These cost-effectiveness studies addressed product costs, energy savings, and GHG reductions.
- In collaboration with SCG, worked closely with the City of Los Angeles, City of Pasadena, and County of Los Angeles to support their efforts to adopt Cool Roof Reach Code ordinances.

E. Planning and Coordination Subprogram

The Planning and Coordination subprogram works with the CEC, the CPUC, the Emerging Technologies Program (ETP), the Workforce Education and Training (WE&T) Program, and SCE's rebate and other voluntary programs to conduct strategic planning in support of the Strategic Plan policy goals, including Zero Net Energy (ZNE) goals for new construction. As part of expanded outreach and communications efforts, the C&S Program maintains a codes and standards collaborative forum and continues to facilitate the statewide Compliance Improvement Advisory Group (CIAG). In addition, the C&S Program maintains regular contact with state and federal code-setting agencies to minimize duplication of efforts and coordinate activities.

1. Subprogram Highlights

- Consolidated and streamlined code compliance training for consistency and efficiency.
- Developed the Code Impact Analysis Tool (CIAT) to forecast and estimate what the energy savings impact of future appliance and building energy standards will be on SCE energy efficiency incentive programs.
- In 2015, began development of a "compliance software roadmap" document for future short-term and long-term building energy simulation (BES) activities for compliance. The roadmap will assess current and future BES software needs and explore solutions that would address those needs. Also, started to develop plans to establish a project steering committee as the primary venue to discuss software ownership and maintenance structure, software development priorities, compliance registries, and training needs, and to identify how code compliance calculations can be aligned with analysis of integrated designs or otherwise "above-code" designs.
- Advanced a GHG tracking tool for city Climate Action Plan compliance.
- Along with the Appliance Standards Advocacy and Building Code Advocacy subprograms, coordinated Emerging Technology Program ZNE pilots and the Irvine Smart Grid Demonstration.

- Supported the development of BOMA educational video in partnership with SCG and LADWP.
- Conducted tactical planning in support of the CPUC's residential ZNE policy goal by developing a draft plan, submitting it for review by CPUC and CEC staff, and making revisions based on their inputs.
- Developed a standing statewide cross-functional conference call to improve coordination and communication with other groups within the IOUs' energy efficiency portfolios.
- Collaborated with the WE&T statewide team on the development of training classes on 2013 Title 24 code requirements for the building industry community and for community colleges.

VIII. Statewide Emerging Technologies Program (ETP)

The statewide Emerging Technologies Program (ETP) supports the California IOU EE programs in their achievement of aggressive objectives through three (3) subprograms:

- The **Technology Assessment** subprogram identifies and assesses the performance of emerging EE technologies and solutions that may be offered to customers with an incentive.
- The **Technology Development Support** subprogram promotes efforts to increase technology supply by educating technology developers about technical and programmatic requirements for rebated measures.
- The **Technology Introduction** subprogram supports efforts to introduce technologies to the market by exposing end-users to applications of emerging technologies in real-world settings, and by using third-party projects to deploy technologies on a limited scale in the market.

ETP uses a number of tactics to achieve the objectives of its three (3) subprograms. Some of the key tactics are described below, but each tactic may be used to achieve any of the subprogram objectives, and this list is not comprehensive.

A. Technology Assessments Subprogram

1. Program Description

Through the Technology Assessment (TA) element of ETP, EE measures that are new to the market (or underutilized for a given application) are evaluated for performance claims and overall effectiveness in reducing energy consumption and peak demand. A key objective of these assessments is the adoption of new measures into SCE's portfolio. Historically, a TA is a core function of ETP that provides critical support to EE programs. TAs may use data and information from different sources to support assessment findings, including *in situ* testing (conducted at customer or other field sites), laboratory testing, or paper studies. In addition to other findings and information, assessments typically generate the data necessary for EE rebate programs to construct a work paper for each measure, estimating energy and demand savings over the life of the measure.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Technology Assessment Subprogram:

- Continued to collaborate with and/or actively engage various IOU and non-IOU stakeholders, including the EE Programs, and to scan a wide variety of sources to identify suitable assessment candidates.
- Used the statewide database to report project activities on a quarterly basis.
- Transferred assessment results to EE programs, via SCE's New Products and Service Gating and Governance process, for adoption as EE measures.
- Provided information to internal stakeholders from assessments that can help IOUs' IDSM resource acquisition programs as they develop new measures or revise and/or integrate existing measures.

- Produced reports describing TA results, conclusions, and recommendations.
- Coordinated assessments and shared technology information through the quarterly meetings of the Emerging Technologies Coordinating Council (ETCC).
- Held an ETCC Open Forum, where developers of new technologies had an opportunity to highlight their products to ET Program staff.
- Successfully identified technologies with verified savings and benefits to the California IOU programs.

B. Technology Development Support Subprogram

1. Program Description

The Technology Development Support (TDS) subprogram provides assistance to private industry in the development or improvement of technologies. Although product development — the process of taking an early-stage technology or concept and transforming it into a saleable product — is the domain of private industry, there are opportunities where IOUs are well qualified or in a strong position to undertake targeted, cost-effective activities that provide value in support of private industry product development efforts. This support decreases innovator uncertainties and allows SCE to have input into the new technologies as they are developed. The ETP also looks for targeted opportunities to support EE product development, and uses several activities to support technology developers through TRIO (Technology Resource Incubator Outreach) roundtables and symposia:

- TRIO provides support and networking for EE and DR entrepreneurs, investors, and universities, with the goal of providing participants the necessary perspective and tools to work with IOUs and ultimately to introduce new EE measures via utility programs.
- Market and behavioral studies investigate customer needs in targeted sectors to estimate customer reaction to new technologies and solutions. The key activities in which ETP engages are in communication and collaboration with industry.

These activities are often conducted on an *ad hoc* basis, as windows of opportunity arise.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the TDS Subprogram:

- Collaborated with industry directly and through partners such as the Western Cooling Efficiency Center (WCEC), the California Lighting Technology Center (CLTC), the California Plug-Load Center (CalPlug), and the Electric Power Research Institute (EPRI).
- Consistent with the goal of increasing technology supply, the ETP designated one of the ETCC Open Forums to reach out upstream to startup companies recently incorporated around promising research. We did this in collaboration with the California Institute of Technology (Caltech), the manager of the U.S. DOE's First Look West (FLoW) cleantech competition. Part of the effort included mentorship to companies and the establishment of an ETCC member-supported \$125,000 fund designed to help support these companies on their road to commercialization.
- Collaborated with and educated innovators from universities and other research institutions.
- Collaborated with the ETCC and the other IOUs on various program-related activities.
- Continued ongoing business relationships with investors who were interested in funding cost-effective EE measures.

C. Technology Introduction Support Subprogram

1. Program Description

The Technology Introduction Support (TIS) subprogram supports the introduction of new technologies to the market, on a limited scale, through several activities:

- **Scaled Field Placement (SFP) projects** consist of placing a measure at a number of customer sites as a key step toward gaining market traction and feedback. Typically, these measures have already undergone an assessment or similar evaluation to reduce risk of failure. Monitoring activities on each scaled field placement is determined as appropriate.
- **Demonstration and Showcase (DS) projects** are designed to provide key stakeholders the opportunity to "kick the tires" on proven combinations of measures that advance Zero Net Energy (ZNE) goals. DS introduces measures at a systems level to stakeholders, whether they are the general public or a targeted audience, in real-world settings, thus creating broad public and technical community exposure and increased market knowledge of these potentially large-scale projects. Key attributes of a DS project are that it is open to stakeholders and it highlights a systems approach rather than an individual approach.
- **Market and behavioral studies** are designed to perform targeted research on customer behavior, decision making, and market behavior to gain a qualitative and quantitative understanding of customer perceptions, customer acceptance of new measures, and market readiness and potential for new measures.
- The **Technology Resource Innovation Program (TRIP)** solicits third-party projects and funds selected projects (up to \$300,000) to deploy emerging technologies on a limited scale to the market.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the TIS subprogram:

- Conducted residential ZNE demonstrations in partnership with home builders supporting the advancement of state goals.
- Scanned, screened, and prioritized a wide variety of sources and coordinated closely with EE Programs for measures suitable for SFP and DS projects.
- Launched SFP and DS efforts such as Linear LED tubes.
- Demonstrated the SFP and DS technologies in actual field conditions.

- Performed primary or secondary research, as necessary, to gain market insight.
- Coordinated with the statewide ETCC stakeholders.
- Solicited third-party programs and awarded funds to introduce emerging technologies to the market.

3. Other Notable Accomplishments in 2015

- Initiated ET Summit planning for spring of 2017. The summit, which typically attracts 500+ attendees, will be hosted by SoCalGas.
- Continued to optimize the new ETCC collaboration structure which includes a new Leadership Team member, the Los Angeles Department of Water and Power (LADWP), and a new 14-member Advisory Council from across industry. Newly structured ETCC Quarterly meetings continue to focus more on strategic technology issues, which has significantly increased participation.
- Completed an Energy Division-led program evaluation study. The study found that approximately 50% of the measures reported by the ET team in 2013-2014 were matched measures (that is, these measures were transferred to SCE's programs). These measures accounted for approximately 2% of the IOUs' electric EE portfolios and 1.3% of the IOUs' gas EE portfolios. The study also reported that ETP activities (projects and studies) that took place during the 2013-2014 program cycle were in alignment with California Long-Term Energy Efficiency Strategic Plan (CLTEESP) end-uses.

IX. Statewide Workforce Education & Training Program

The Statewide Workforce Education and Training (WE&T) Program represents a portfolio of education, training, and workforce development planning and implementation activities, funded by or coordinated with the IOUs. The Program includes three (3) Subprograms: WE&T Centergies, WE&T Connections, and WE&T Strategic Planning and Implementation.

The WE&T Program met its goals in 2015 and continued to consider and implement enhancements in order to align with program evaluation and Needs Assessment study recommendations. SCE and the other IOUs — PG&E, SDG&E, and SoCalGas — collaborated with a diverse set of stakeholders, professional and trade organizations, government agencies, and other education and training providers, focusing on three (3) primary areas:

- Expanding the WE&T Program's reach
- Evolving the WE&T Program to address customer, market, and industry needs, and
- Collaborating with industry and stakeholders to build upon each other's strengths.

Following is an overview of the 2015 program highlights, by subprogram:

A. WE&T Centergies Subprogram

1. Program Description

This subprogram is organized around market sectors and cross-cutting segments to facilitate integrated demand-side management (IDSM) workforce education and training. Energy Centers represent the largest component of this subprogram. The program includes educational workshops and seminars, tool loans, equipment demonstrations, consultations, and community outreach events. These activities allow potential "green workforce" candidates to explore energy efficiency (EE), IDSM technologies, and resource management techniques.

In 2015, the Irwindale Energy Education Center and the Tulare Energy Education Center continued to make strategic program improvements to better align with the goals identified in the California Long Term Energy Efficiency Strategic Plan (CLTEESP). The Energy Centers continued to evaluate and implement programs and projects to better align them with study and market characterization evaluations, with the recommendations of the 2014 Guidance Plan document¹⁷ titled "Workforce Issues and Energy Efficiency Programs: A Plan for California's Utilities," where appropriate, and with Statewide initiatives where appropriate. This realignment included significant internal collaboration with SCE's DSM Programs, as well as engagement with external EE program and service

¹⁷ Produced by the Don Vial Center, University of California at Berkeley.

educators and with key industry stakeholders in various trades who encourage participation in SCE's resource programs.

2. WE&T Centergies Strategies Implemented in 2015

In 2015, WE&T Centergies continued to build upon current efforts by establishing new and enhancing existing cross-cutting industry stakeholder teams to address specific workforce intervention opportunities, identifying applicable career pathways to help upgrade the knowledge, skills, and abilities of incumbent workers in relevant trades, and exploring new ways to engage employers through strategic partnerships. Some highlighted efforts included:

- Continued collaborating with the PG&E and Local Carpenter's Union Training Centers to deliver five (5) EE classes for journeymen and apprentices on topics including air sealing, advanced framing, window selection, and building envelope commissioning. To further leverage course content, the IOUs and Carpenters will implement a "train-the-trainer" model for carpenter trainers on topics including advanced framing, blower door testing, and use of infrared cameras to enhance building performance measurement and evaluation. These train-the-trainer sessions will begin in Q2 2016.
- Continued collaborating with the Institute of Heating and Air Conditioning Industries (IHACI) and the California Community Colleges (CCC) System on the WE&T HVAC Quality Installation (QI) and Quality Maintenance (QM) Training programs at Glendale Community College, which now gives credits (Continuing Education Units or CEUs) for these courses.
- Represented the IOUs at the Western HVAC Performance Alliance (WHPA) Annual Conference in San Diego, to promote strategic HVAC sector activities for workforce education and training and to provide guidance on the future of WE&T and the HVAC industry.

3. Energy Education Centers Strategies Implemented in 2015

- Continued to provide core skills training and job-site mentoring for contractors and technicians who participate in SCE's HVAC Optimization programs, through

an industry partnership with the National Comfort Institute (NCI). Efforts focused on commercial and residential air balancing, system performance through comprehensive test-in / test-out procedures, advanced digital economizers, residential renovation and retrofit, ComfortMaxx software expertise, and performance-based sales of EE equipment.

- Continued to support HVAC Commercial QI and QM by providing targeted training through our industry partnership with IHACI. This professional training teaches contractors to install and service HVAC systems that meet all installation requirements to operate with EE at the highest possible capacity.
- Continued to promote and expand HVAC Commercial QM training with enhanced hands-on training units designed to allow fully-functional rooftop package units to be operated, tested, and evaluated in a safe, controlled, and comfortable environment.
- Trained over 5,000 contractors and technicians in 2015, using both IHACI QI/QM and North American Technician Excellence (NATE) preparation curricula.
- Through a continued partnership with HVACRedu (an online, on-demand HVAC contractor and technician installation and maintenance training organization), implemented the "It's About Q" program throughout SCE's service territory. This program focuses on hands-on, standards-based skills training for quality installation and maintenance of Commercial and Residential HVAC systems. Through the program, SCE successfully completed 252 core assessments for over 30 technicians, resulting in over 580 online and on-demand courses completed by HVAC contractors and technicians in 2015.
- Continued offering "Lighting Academy" classes designed to provide an overview of the latest technologies and most energy-efficient designs in the lighting industry. The classes are conducted by nationally recognized experts in education on lighting technology design, engineering, and research.

- Continued the development and delivery of "Automation Academy" classes, where attendees learn about IDSME applications and receive hands-on training on program logic controllers.
- Continued the California Advanced Lighting Controls Training Program (CALCTP), resulting in 283 state certifications for workshops in the following areas:
 - Systems Certification 86 Certifications
 - Acceptance Technician100 Certifications
 - Acceptance Technician (Employer)..... 97 Certifications
- Partnering with the Codes & Standards Program, delivered over 200 workshops and seminars on Title 24, Building Energy Codes, Lighting, Residential and Non-Residential Standards, and Energy Code Software to nearly 3,400 customers throughout SCE's service territory.
- The Tool Lending Library program is a Statewide IOU WE&T program that provides short-term, energy-focused tool loans along with hands-on workshops. The program seeks to provide end-use customers with enhanced skills and knowledge so they can make more informed decisions on energy use at their homes and businesses. In 2015, SCE's Tool Lending Library loaned 356 unique energy measurement and building performance evaluation tools through nearly 400 individual transactions with homeowners, business owners, and contractors throughout SCE's service territory.
- As a result of a successful pilot in 2014, continued to deliver the "Mobile Integrated Building Energy Science Training Program" (MI-BEST) in 2015. The MI-BEST curriculum focuses on developing the skill sets that are essential to HERS raters, energy auditors, Building Performance Institute (BPI) contractors, mechanical engineers, architects, builders, and HVAC professionals.

4. 2015 Energy Education Centers Performance

Deliverable	Tulare	Irwindale	Total
Seminars	171	370	541
Total Energy Efficiency attendance	4,137	8,873	13,010
Total on-location seminars	52	82	134
Energy Efficiency consultations or Energy Efficiency equipment demonstrations	104	80	184

B. WE&T Connections Subprogram

1. Program Description

The WE&T Connections Subprogram promotes EE and other DSM education, training, and outreach, as well as energy and "green sector" career awareness, as age-appropriate, along all educational paths from K-12 to post-secondary. WE&T Connections achieves its educational goals and green career pathways by working with community-based organizations (CBOs), state education agencies, and educational stakeholders to help promote DSM concepts and career awareness. The subprogram imparts EE, DR, and relevant career messages through educational materials, student assemblies, teacher workshops, and outreach events. K-12 educational materials are correlated to the California Department of Education's content standards.

SCE's WE&T Connections subprogram is comprised of seven (7) elements:

- PowerSave Campus
- PowerSave Schools, PEAK,¹⁸ and LivingWise (for K-12 students)
- Developing Energy Efficiency Professionals (DEEP)
- Community Language Efficiency Outreach (CLEO), and
- The Mobile Education Unit (MEU).

¹⁸ PEAK is not an acronym; the full title is PEAK Student Energy Actions. The program focus is primarily on offsetting peak demand time.

2. Strategies Implemented in 2015

- In 2015, SCE's WE&T Connections subprogram met its goals. The IOUs provided age-appropriate teaching resources on EE, DR, and distributed generation (DG) concepts and green career awareness for K-12 and college students and instructors. Over the years, these programs have evolved to align with the recommendations of different studies and stakeholder input. Collaboratively, these programs surpassed their 2015 goals providing resources statewide to 168,172 K-12 students at 1,477 schools, of which 51% were Title 1 schools.¹⁹ The post-secondary program has a presence on 16 campuses reaching over 678,000 students.
- Spurred by input from recent studies and recommendations, and to build on the strengths and lessons learned, the IOUs put in motion a full revamp of program offerings to ensure the best programs are in place going forward. Through an open RFP process, program enhancements included standardized offerings across the state, increased cost-effectiveness, increased numbers of teachers and students, expansion of participating schools, and increased in-kind staff resources.

3. Connections Subprogram Highlights

- The K-12 sector programs (PowerSave Schools, PEAK, and LivingWise) met their student outreach target, as well as their Title 1, teacher training, and outreach and green career targets.
- PowerSave Schools implemented 15 DSM lessons focusing on Energy Basics, Energy Audits, Demand Response, Renewables, and Green Careers. The lessons feature a more user-friendly format with embedded assessment tools, and align with Common Core and Next Generation Science Standards (NGSS). PowerSave Schools conducted eight (8) professional development workshops in eight school districts, including a career "roadmap" guide and energy audit training. Additionally, the program conducted 60 EE-related career activities for more than 1,300 students.

¹⁹ Title I Schools are located in areas near poverty level that receive supplemental federal funding to help meet the needs of at-risk and low-income students.

- LivingWise distributed 33,393 energy-saving kits to students, including 16,097 students in Title 1 schools. All students and teachers received a participant guide introducing them to green career profiles and energy efficiency activities.
- Through the PEAK program, students learned to value energy and promote sustainable energy use in their homes, schools, and communities through four (4) core principles:
 - Shifting use to off-peak hours (demand response)
 - Shrinking use through conservation and energy efficiency
 - Exploring renewable energy (renewable resources and distributed generation), and
 - Plugging into new and efficient technologies (energy efficiency).

Eighty-eight (88) out of 121 participating schools were Title 1.

- Developing Energy Efficiency Professionals (DEEP) was implemented at three (3) California Community Colleges and engaged eight (8) interns in projects and activities to advance student green career awareness and exploration, and to prepare students for careers in energy efficiency and sustainability. Interns developed newsletters and distributed flyers focused on EE and sustainability, reaching approximately 600 students on the campuses. Interns completed an analysis of potential on-campus sites for turf removal in an effort to conserve water. The analysis was presented to:
 - The Vice President of Administrative Services,
 - An engineering firm the college will hire to do turf removal projects, and
 - The Metropolitan Water District.
- The Mobile Energy Unit program continued its presence throughout SCE's service territory, attending 88 events (including the LA County Fair and Solar Decathlon) while educating customers on residential EE tips, programs, and rebates. Throughout the year, the program reached over 24,000 people, and collected over 200 completed CARE Program applications and over 200 ESA Program applications from customers.

- The Community Language Efficiency Outreach (CLEO) program reached out to SCE's language-dependent customers (in Chinese, Vietnamese, Korean, and Spanish) through EE seminars at local venues and by hosting booths at local community events. A total of 30 seminars were conducted, and 66 booths were hosted, reaching over 15,000 customers.
- The PowerSave Campus statewide program continued its presence in SCE's service area with seven (7) campuses and approximately 75 interns. Approximately 50 student-led campaigns produced measurable awareness and behavior changes toward EE and the environment. Examples of student-led campaigns and events include career panels, energy saving competitions, workforce training events, and hands-on trainings. A water-energy nexus panel was hosted on campus to help students understand the correlation between water and energy.

C. WE&T Strategic Planning and Implementation Subprogram

1. Program Description

The WE&T Strategic Planning and Implementation subprogram involves management and execution of several strategic statewide planning tasks identified in the Strategic Plan, including (but not limited to) forming an IOU-WE&T task force, holding annual WE&T public workshops, conducting a Needs Assessment, and hiring an expert consultant to develop a comprehensive approach to WE&T.

2. Strategies Implemented in 2015

SCE continued to prioritize and refine existing program activities by considering recommendations and findings from the 2011-2012 Needs Assessment,²⁰ the 2014 Guidance Plan document mentioned in Section IX.A.1., above,²¹ and other WE&T program evaluations.

²⁰ Produced by the Don Vial Center, University of California at Berkeley.

²¹ "Workforce Issues and Energy Efficiency Programs: A Plan for California's Utilities."

3. Stakeholder Engagement and Collaboration

Long-term success for the statewide WE&T program depends on several factors, including stakeholder engagement and support. Previously, the CPUC required the IOUs to hold Taskforce meetings to monitor and track progress of the statewide WE&T program and to advance strategies to meet Strategic Planning goals and objectives. In 2015, with CPUC support, the WE&T team re-envisioned the Taskforce meetings and launched the Stakeholder Engagement Forum as a way to increase collaboration and create an opportunity for dialogue and discussion across the state.

The Stakeholder Engagement Forum was used to introduce several innovative ways to connect with participants, including web-based video conference technology, online chat forums, and real-time polling. By "virtually" connecting participants across the state, the IOUs were able to share a statewide vision while interacting with stakeholders at a regional and local level. This opportunity allowed the IOUs to engage with a broader audience and allowed people to attend in person in San Francisco, Los Angeles, and San Diego, or to participate online from any location.

One of the guiding principles of the Stakeholder Engagement Forum was to foster an open and transparent environment that encouraged dialogue and fostered innovation. To achieve this, the forum meetings were designed to include more opportunities to gather input, including breakout sessions where stakeholders could delve into high-value topics that could inform and enhance the WE&T program.

Response to the Stakeholder Engagement Forum has been extremely positive with specific feedback regarding the positive impact of video conferencing, the meeting format, and the discussion topics. Some direct benefits cited were reduced travel time, reduced travel costs, and increased access and participation.

4. Collaborations with the Community Colleges and the State University System

To better understand potential opportunities, the IOU team (SCE and the other California IOUs) met with a number of internal and external stakeholders. For example, the team conducted collaborative planning discussions with educational institutions, such

as the CCC Energy Efficiency and Utility Sector Navigators, the CCC Chancellor's Office, and the California State University (CSU) Office of the Chancellor. These collaborative planning discussions provided an opportunity for the IOUs (on both statewide and local levels) and the educational institutions to better understand mutual WE&T objectives, current activities, potential issues, and future opportunities. As a result of these types of discussions, the IOUs were able to identify and move forward with collaborative opportunities, such as working with the CCC Chancellor's office to provide a class for Community College instructors on Title 24 updates.

5. WE&T Sector-Specific Strategies

In 2015, WE&T and HVAC resource program staff collaborated with the Western HVAC Performance Alliance (WHPA) to develop and implement a comprehensive WE&T HVAC Sector Strategy (HVAC SS), with the goal of designing, developing, and implementing a training program aligned with California's energy goals for HVAC Quality Installation (QI) and Quality Maintenance (QM). In 2015, the IOUs focused the HVAC SS on two (2) key areas — Commercial QI / QM Training and Energy Efficiency Sales Training for contractors and technicians. The IOUs and the WHPA completed profiles and plans that better define industry's view of the relationship between WE&T activities and employer support. The team identified leads for each area of focus, developed goals, identified milestones and deliverables, and outlined existing related activities which may support HVAC SS. The work in 2015 built the foundation for 2016 implementation of the training programs.

X. Statewide Marketing, Education & Outreach (SW ME&O) Program

1. Program Description

On May 10, 2012, the California Public Utilities Commission ("Commission") issued its Decision D.12-05-015, in which it described Energy Upgrade California as "a statewide umbrella brand for energy information and encouraging demand-side management actions."²²

²² D.12-05-015, at Page 13.

D.12-05-015 also stated that messages that are within the umbrella brand "should not be limited to energy efficiency, and should also include generalized energy education and awareness, such as information related to demand response, dynamic rate options, enabling technologies, climate change impacts, the Energy Savings Assistance Program, distributed generation investment, smart grid upgrades, and any other general impacts of energy use for individuals or for the state as a whole." ²³

On December 27, 2013, the Commission issued D.13-12-038 establishing the SW ME&O program for the 2014-2015 cycle and adopting a "governance structure that, while leaving the details of running the statewide marketing campaign to the Center for Sustainable Energy (CSE), also provides for strong oversight by the Commission and the CEC, while also allowing the utilities and others to provide collaborative input and advice." ²⁴

D.13-12-038 identified the responsibilities of the IOUs and the Southern California Regional Energy Network (SoCalREN):

- Provide information to CSE and the marketing firm in a timely manner,
- Participate in the EM&V roadmap for marketing,
- Coordinate with CSE on local and statewide marketing activities, and
- Raise any issues with the semi-annual marketing plans proposed by CSE.

The Commission also ordered PG&E to serve as the fiscal manager through a contract with CSE, on behalf of the IOUs, without exercising control of, or modifications to, the overall design of the 2014-2015 SW ME&O program. PG&E and CSE finalized the contract on February 18, 2014.

On July 28, 2015, the Commission issued D.15-08-033 authorizing 2016 bridge funding to enable CSE to continue to implement the SW ME&O program in the same manner, and under the same governance structure, as authorized in D.13-12-038.

²³ D.12-05-015, at Page 300.

²⁴ D.13-12-038, at Page 73.

On October 26, 2015, the Commission issued a scoping memo to begin a third phase of the proceeding to consider issues relating to the funding and implementation of the SW ME&O campaign (that is, of "Energy Upgrade California"), after the bridge funding approved in D.15-08-033 expires at the end of 2016. As required in D.16-03-029 on March 17, 2016, the Commission authorized issuance of a Request for Proposal (RFP) to select the statewide administrator for a three-year term beginning in 2017, with an option to extend the contract for an additional two (2) years based on performance.

2. Strategies Implemented in 2015

Consistent with its approach in 2014, CSE developed and filed integrated communications plans to define strategies, objectives, target audiences, channels, tactics, and budget in 2015. CSE's integrated communications plans included the following topics:

- Help California Stay Golden – Play Your Part
- California Climate Credit
- Financing
- Home Automation
- Drought: Energy and Water
- Cool California Challenge
- Energy Efficiency and Low Cost Energy Actions
- Energy Upgrade California Home Upgrade
- Time-Varying Rates, and
- Standby Energy / Plug Load.

The IOUs and Regional Energy Networks (RENs) consistently coordinated and collaborated with CSE on all marketing phases, from the development of strategy and advertising agency briefing documents through creative development and execution, in an effort to maximize statewide messaging for the benefit of ratepayers. Throughout the year, the IOUs and RENs have provided comments on items including the integrated communications plans, creative concepts for Finance and other programs, and channel tactics such as the retail engagement and community-based outreach strategies.

XI. Statewide Integrated Demand Side Management (SW IDSM) Program

1. Program Description

The Strategic Plan recognizes the integration of DSM options, including energy efficiency (EE), demand response (DR), and distributed generation (DG), as fundamental to achieving California's strategic energy goals. To support this initiative, the IOUs have identified IDSM as an important strategic DSM policy priority and have proposed a series of activities, pilots, and other programs in response to the Strategic Plan DSM Coordination and Integration Strategy.

An IOU and Energy Division Statewide IDSM Task Force was formed in 2010 and has continued coordinating activities that promote, in a statewide-coordinated fashion, the strategies identified in the Strategic Plan and the eight (8) integration directives described in the EE decision as follows:

1. Development of a proposed method to measure cost-effectiveness for integrated projects and programs, including quantification and attribution methods, that include GHG and water reduction benefits and potential long-term economic and electricity and gas hedging benefits.
2. Development of proposed measurement and evaluation protocols for IDSM programs and projects.
3. Review of IDSM-enabling emerging technologies for potential inclusion in integrated programs.
4. Development of cross-utility, standardized, integrated audit tools, using PG&E's developed audit tools as a starting point.
5. Tracking of integration pilot programs to estimate energy savings and lessons learned, and development of standard integration best practices that can be applied to all IOU programs, based on evaluation of the pilot programs and the results of additional integration-promoting activities (namely, EM&V and cost-benefit results).

6. Development of regular reports on progress and of recommendations to the CPUC).
7. Organization and oversight of internal utility IDSM strategies by establishing internal Integration Teams with staff from EE, DR, DG, marketing, and delivery channels.
8. Provision of feedback and recommendations for the utilities' integrated marketing campaigns, including how the working group will ensure that DR marketing programs approved as Category 9 programs are coordinated with EE integrated marketing efforts.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the SW IDSM Program:

- The Task Force tracked multiple integrated emerging technologies and reviewed various programs, projects, IDSM Pilots, and activities to identify integration efforts and opportunities and to develop best practices.
- The IOUs submitted four (4) joint quarterly reports for 2015, each including an Executive Summary section, to provide Energy Division staff with updates on the eight (8) IDSM directives. All quarterly reports were uploaded and available for viewing on the California Energy Efficiency Statistics Data Portal (EE Stats).
- The statewide IDSM Task Force held regular coordination phone calls to discuss lessons learned and to continue to ensure alignment across the state.
- The IOUs have developed well-established processes ensuring delivery of integrated messaging via marketing, education, and outreach to residential and business customers. Delivery of IDSM marketing has become more than just promotion of multiple programs within specific tactics like collateral or websites. It is now a key component in the planning phases of integrated marketing, education and outreach to help provide the right solutions to the right customer at the right time.

- Evergreen Economics, a market research firm contracted by the CPUC, completed its "IDSM Customer Research" study in the 3rd Quarter of 2015. This study was an examination of the patterns of IDSM uptake among residential customers to better understand the social and economic mechanisms that drive, or prohibit, IDSM adoption. The results should inform future program designs and may also serve as a baseline for tracking changes in market characteristics.

Note: *Further efforts in developing integrated cost-effectiveness and EM&V methodologies are on hold pending direction from the CPUC Energy Division.*

- In addition to the meetings described above, the IOUs have coordinated on a statewide basis in several areas:
 - The statewide Online Integrated Audits team continues to coordinate the delivery of a consistent online integrated audit tool that works with each IOU interface and educates customers on managing their energy use costs.
 - The Onsite Integrated Audits team continues to collaborate in sharing approaches and best practices. The IOUs continue to offer onsite integrated audits to small, medium, and large customers.

SCE's SW IDSM efforts included the following activities:

- Gathered the data for, and collaborated with internal and external stakeholders in preparing, the quarterly and annual reports to the CPUC Energy Division.
- Identified and collaborated upon items with the other IOUs to further pursue alignment of IDSM objectives. This included: attending bi-weekly SW IDSM task force update calls, and meeting with IOU subject matter experts on EE and DR sharing information regarding their areas of focus.
- Provided liaison services for integration efforts among departments, sectors, teams, and groups, and informed the SW taskforce of progress being made.

- Continued coordinating integrated marketing campaigns and collateral throughout the year for residential and large, medium, and small business customers.
- The staff of the Income Qualified Energy Savings Assistance (ESA) Program continued to collaborate with EE programs' staff in the Middle Income Direct Install (MIDI), Energy Upgrade California (EUC), and Multifamily EE Rebate (MFEER) Programs to streamline program processes. This included continuing to refer customers who exceed ESA Program income guidelines to the MIDI Program.
- Provided thorough training to staff regarding IDSM objectives throughout the year. The cornerstone of the training program was to host a "summit" with staff members from the DSM Operations teams and field representatives from Commercial and Industrial Services. The training covered many aspects of the best ways to communicate the benefits of energy efficiency, demand response, and sustainability to customers.
- The Statewide Marketing, Education & Outreach (SW ME&O) Program continued to share cross-cutting measure information and to offer IDSM comprehensive solutions to customers in all market segments, and SCE developed best practices for the integration of EE, DR, and DG program measures into Energy Education Center advanced training curricula.
- Emerging Technologies reviewed and conducted studies on multiple products and services that could serve the policy objectives of IDSM in the future, including variable-flow pool pumps, low-cost solar photovoltaic systems, heating, ventilation, and cooling (HVAC) whole house systems, supply fan control overlays for demand response, advanced lighting controls, and evaluation of the Open Automated Demand Response (Open ADR 2.0 A/B) standard.

XII. Local Government and Institutional & Government Partnerships²⁵

A. Energy Leader Partnership Program

The Energy Leader Partnership (ELP) Program provides support to local governments in SCE's service territory in order to identify and address energy efficiency (EE) opportunities in municipal facilities, take actions supporting the Strategic Plan, and increase community awareness and participation in demand-side management opportunities. A key goal of SCE's local government partnerships is helping cities and counties to lead by example through addressing EE first in their own municipal facilities. In addition, the program strives to expand the policies and the energy management capacity of local governments to maintain a focus on long-term sustainability. In 2015, 128 cities and 10 counties participated in SCE's local government partnerships, including 12 new partners. Twelve partners also moved up a tier in SCE's Energy Leader Partner (ELP) model through demonstrated EE achievements and commitment to the partnerships, including participation in EE retrofits and demand response (DR) enrollment. These advancements include one (1) partner advancing to Platinum Level, nine (9) to Gold Level, and two (2) to Silver Level.

Additionally, SCE continued working to further Local Government Long-Term Energy Efficiency Strategic Plan Goals by helping local governments develop a long-term EE vision and identifying specific EE projects for implementation. Overall, Partner cities have developed 91 energy action plans, which establish a baseline of energy usage, set energy savings goals, and determine near-term measures to accomplish the goal. Additionally, 105 Partner cities have installed utility manager systems, 42 cities have developed benchmarking plans, and 26 cities have developed a revolving EE fund to further promote energy efficiency within the city.

1. Partnership Strategic Support Subprogram

(a) Program Description

The four IOUs — SCE, PG&E, SCG, and SDG&E — contracted with the International Council for Local Environmental Initiatives (ICLEI), the Institute for Local Government (ILG), and the Local Government Commission (LGC) to implement the

²⁵ Although SCE, the other IOUs, and the participating local government entities utilize the term "partnerships" to describe the energy efficiency alliances formed, none of the participants have formed a legal partnership with SCE or any other entity through participation in these programs.

Statewide Energy Efficiency Collaborative (SEEC). SEEC provides a coordinated statewide program of workshops, technical assistance, a recognition program, and other means to allow local governments to share best practices associated with energy management. The statewide local government EE best practices coordinator, also funded by the four IOUs, coordinates this work.

(b) Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Partnership Strategic Support Subprogram:

- Over the course of the year, ICLEI, ILG, the LGC, and the Statewide Local Government Energy Efficiency Best Practices Coordinator increased participation.
- Directly reached **over 270 people** through eight (8) in-person events (an annual statewide forum, regional workshops, and local government partnership workshops) that provided valuable educational and networking opportunities.
- Reached **over 370 people** through online webinars on timely topics such as AB 802 and SB 350, new developments in ClearPath, and the LA Energy Atlas.
- Created or updated **over 20 resources**, which include sustainability best practices, case study videos, templates, fact sheets, and a calendar.
- Increased participation in critical SEEC programs:
 - ClearPath registered users grew to **298 local governments**.
 - Beacon participation grew to **77 cities and counties** and **10 regional agency champions**.
 - The Statewide Energy Efficiency Forum registration and attendance continue to grow, with the 2015 forum attracting **250 participants**.
 - The Coordinator's Weekly Updates list grew to over **700 subscribed local government staff and California energy professionals**.
- Increased web traffic to SEEC-related websites and webpages to over **23,500 visits**.

2. City of Beaumont Energy Leader Partnership

(a) Program Description

The City of Beaumont Energy Leader Partnership Program is a local government partnership comprised of the City of Beaumont and SCE, launched in 2009 under the Local Government Energy Action Resources Partnership. The Partnership focuses on municipal retrofits, ME&O, and Strategic Plan development.

(b) Strategies Implemented in 2015

- SCE and the City held monthly meetings to discuss Energy Leader program goals, milestones for EE project, community outreach, and Strategic Plan.
- The City maintained Gold Tier status in the ELP model which represents EE projects completed equal to 10% or greater of the city's annual energy consumption.
- The City published an "Energy Efficiency Tip of the Week" via its social media channel to promote SCE's various programs.
- The Partnership participated in the Veterans Expo in January and Summer Concert in June by engaging SCE's Mobile Education Units as part of marketing and outreach to the community.
- The City completed Strategic Plan Phase 3 activities.
- The monthly partnership update report was a regular item on all City Council meeting agendas related to the city's sustainability efforts.
- The City's webpage linked to SCE's Facebook page, offering summer readiness tips for outreach efforts to the community.

3. City of Long Beach Energy Leader Partnership

(a) Program Description

The City of Long Beach Energy Leader Partnership is a local government partnership comprised of the City of Long Beach and SCE. Partnership activities in 2015 focused on implementing EE in municipal facilities specifically and promoting EE in the community through community education, marketing, and outreach efforts to create awareness and

connect residents and businesses with information and opportunities to take energy actions.

(b) Strategies Implemented in 2015

- The City increased participation in the partnership in 2015 with representatives from the Long Beach Port, Convention Center, Airport, Sustainability Office, Facilities Management Office, and the Water, Public Works, Gas, and Parks & Recreation Departments. Additional project opportunities have been identified, audits performed, and applications submitted as a result of including these various departments.
- The City completed two (2) Savings By Design (SBD) projects at the Harbor District Middle Harbor Terminal, and completed a lighting project at the Long Beach Convention Center.
- The City submitted a total of 27 applications for citywide street-lighting projects to install and/or replace over 25,000 street lights, with all projects requesting On-Bill Financing (OBF).
- The City participated in the Direct Install Program with installations completed at three (3) facilities.
- The Partnership promoted SCE's core EE programs and other energy offerings at two (2) city-sponsored events.
- The City is working on ten (10) additional project opportunities that the partnership identified for the Long Beach Airport, City Place Parking Structures, and Beach Parking Lots, as well as additional opportunities for the Parks & Recreation Department.
- The City enrolled one (1) new service account in demand response (DR) programs.

4. City of Redlands Energy Leader Partnership

(a) Program Description

The City of Redlands Energy Leader Partnership is a local government partnership comprised of the City of Redlands and SCE, delivering energy savings through retrofits of municipal facilities. The partnership includes marketing, education, and outreach, coordinates with core utility EE and DR programs, and implements strategic planning activities.

(b) Strategies Implemented in 2015

- SCE, SoCalGas, and the City held monthly meetings to discuss core objectives, Energy Leader program goals, milestones for EE projects, and community outreach.
- The City maintained the Silver Tier level in the Energy Leader Model.
- The City completed various pump retrofit projects and a parking lot lighting upgrade project.
- The City completed an LED Street light Project (Phase 2).
- The Partnership participated in the Redlands Sustainability Festival in March, which included information about EE for both commercial and residential customers.
- The City Council completed Strategic Plan Phase 3 by adopting the Energy Action Plan.
- The Partnership posted EE tips on the City's Facebook page offering summer readiness tips for outreach efforts to the community.

5. City of Santa Ana Energy Leader Partnership

(a) Program Description

The City of Santa Ana Energy Leader Partnership is a local government partnership comprised of the City of Santa Ana and SCE. Partnership activities focus on implementing EE in municipal facilities specifically and promoting EE in the community. The partnership establishes energy savings goals for EE retrofit of city-owned facilities,

and identifies, scopes, and implements projects. The partnership also funds community education, marketing, and outreach efforts to create awareness and connect residents and businesses with information and opportunities to take actions to reduce energy consumption, and includes Strategic Plan activities such as climate action planning, code compliance and reach codes development.

(b) Strategies Implemented in 2015

- SCE and the City met monthly to discuss Energy Leader program goals, milestones for marketing, training, and EE projects.
- The City completed six (6) major EE projects, including three (3) LED streetlight projects, two (2) well pump projects installing VFDs, and a project to upgrade lighting to LED at the train station parking structure.
- The LED street lighting project and the parking structure project took advantage of the On-Bill Financing (OBF) Program which facilitated City approval and completion of the projects.
- The City featured EE and other SCE programs in each of its quarterly newsletters.
- The City has enrolled 13 facilities in SCE DR programs, including the Demand Bidding, Summer Advantage Incentive (aka Critical Peak Pricing), and Summer Discount Plan Programs.
- The City completed the development of an online permitting system to reduce GHG by reducing travel to permit offices, and to promote demand-side management programs to customers submitting applications online.
- The City has submitted applications for EE retrofits at 14 additional facilities (anticipated to be completed in 2016).

6. City of Simi Valley Energy Leader Partnership

(a) Program Description

The City of Simi Valley Energy Leader Partnership is a local government partnership comprised of the City of Simi Valley and SCE. Partnership activities focus on implementing EE in municipal facilities and promoting EE in the community. The

partnership establishes energy savings goals for EE retrofit of city-owned facilities, and identifies, scopes, and implements EE projects. The partnership also funds community education, marketing and outreach efforts to create awareness and connect residents and businesses with information and opportunities to take energy actions.

The City has completed the Phase 1 and Phase 2 strategic plan activities that included online permitting and establishing facility retrocommissioning policies, benchmarking policies, etc. In December 2015, the City passed a resolution to join the Ventura County Partnership.

(b) Strategies Implemented in 2015

- SCE and the City Partnership team met monthly to review program goals and discuss plans.
- The City completed a pump retrofit project.
- The Partnership engaged SCE's Mobile Energy Unit to provide energy information and demonstrations at Simi Valley's Living Green Expo and Street Fair. Over 2,000 people attended this event.
- The City's vendor (ESCO) submitted its EE projects report to the City for consideration.

7. Gateway Cities Energy Leader Partnership

(a) Program Description

The Gateway Cities Energy Leader Partnership Program is a local government partnership comprised of SCE, SCG, and the Cities of Downey, Norwalk, and South Gate, as well as a new Partner, the City of Lakewood, which joined the Partnership in 2015. Partnership activities focus on implementing EE in municipal facilities and promoting EE in the communities. The partnership establishes energy savings goals for EE retrofits of city-owned facilities, and identifies, scopes, and implements EE projects. The partnership also funds community education, marketing, and outreach efforts to create awareness and connect residents and businesses with information and opportunities

to take energy actions. Additionally, the partnership includes Strategic Plan activities, such as climate action planning, code compliance, and reach codes.

(b) Strategies Implemented in 2015

- SCE and the Partner cities met monthly to discuss Energy Leader Program goals, milestones for marketing, training, and EE projects.
- The City of Norwalk completed an EE retrofit project of its community pool pump.
- The Partnership completed several EE projects in 2015, including street lighting projects in the Cities of Downey and South Gate.
- The Partnership included information about SCE's core programs and other energy offerings in its monthly newsletter and on its website.
- The Partnership promoted EE by participating in major community events and utilizing SCE's Mobile Energy Unit: Annual Azalea Festival, Family Day at the Park, Summer Concerts for the City of Norwalk, and the Annual Children Day and Street Fair for the City of Downey.

8. Community Energy Leader Partnership

(a) Program Description

The Community Energy Leader Partnership (CEP) program is a unique local government partnership comprised of the Cities of Corona, Irvine, Moreno Valley, San Bernardino, Santa Clarita, and Santa Monica, and SCE, SCG, and The Energy Coalition (TEC), the implementing partner. The CEP members work in collaboration to deliver energy savings in municipal facilities and create EE awareness among multiple market segments, including municipal, residential, and nonresidential. CEP initiatives also include an emphasis on activities that support the Strategic Plan and coordinate utility core programs with Partner city communities.

(b) Strategies Implemented in 2015

- Continued to hold monthly Efficiency Now! Team meetings with city Team Leaders and facility-related city staff, IOU Account Representatives and Public

Affairs Managers, and TEC staff. The purpose of these team meetings is to further cement new working relationships among Partner cities, the IOUs, and TEC that were essential in successfully reaching all program goals in 2015 and maintain a focus on EE and sustainability.

- Completed 20 energy efficiency projects.
- Continued to promote IDSM audits and DR programs to Partner cities during team meetings.
- Coordinated with SCE on outreach efforts for the Nonresidential Direct Install program in several Partner cities.
- Distributed information regarding the following programs: HEES Surveys, Operation Light Exchange Events, CSI (California Solar Initiative), and the Appliance Recycling Program.
- Conducted nine (9) Community Outreach events and one (1) Team Leader Meeting in 2015.
- Regularly produced "city accomplishments" documents, customized for each partner city, to showcase their achievements, and distributed them to city managers, council members, and city decision-makers.

9. Eastern Sierra Energy Leader Partnership

(a) Program Description

The Eastern Sierra Energy Leader Partnership is a partnership between SCE and jurisdictions in the Eastern Sierra region. The partnership identifies opportunities for improving EE in Eastern Sierra jurisdictions, offers customized incentives for municipal projects, and conducts EE training and outreach events to drive participation in the core programs.

(b) Strategies Implemented in 2015

- The Partnership and SCE's Program Manager participated with an outreach float in the Town of Mammoth Lakes community Independence Day parade.

- The Partnership, working with the Mammoth Community Water District and the Mammoth Unified School District, completed the ninth year of the LivingWise water conservation / energy efficiency course for 100 sixth-grade earth science students at Mammoth Middle School.
- The City of Bishop received approval for solar PV projects at its wastewater treatment plants in late 2015.
- The Partnership participated in the City of Bishop Christmas parade with an LED outreach float.
- The Partnership offered innovative and inspiring ideas to build support for EE communities among elected officials, focused on helping to implement the local government chapter of the Strategic Plan, and updated the Councils and Boards of Supervisors twice each during 2015.
- In June 2015, the Partnership participated in a statewide forum for local government elected officials and staff, in coordination with California's four IOUs, ICLEI, the ILG, the Statewide Local Government Energy Efficiency Best Practices Coordinator, the CPUC, the CEC, and the California Air Resources Board (CARB). The forum, which is now recognized as the premier energy conference for local governments in California, was designed to encourage local officials to commit to GHG reductions and EE.
- The Partnership participated in one (1) web-based workshop and three (3) statewide webinars. These workshops were open to all local governments and were topic-based, focusing on Priority Strategies. The topics were chosen in coordination with the IOUs, ICLEI, and ILG, and took a large amount of local government input into consideration.
- The Partnership provided support and resources for elected officials on energy and climate change issues and helped connect them to other elected leaders across the state working on these issues. LGC worked with local elected officials and city and/or county managers to share resources and innovative and inspiring ideas from across the state in order to build support for energy-efficient communities.

10. Desert Cities Energy Leader Partnership

(a) Program Description

The Desert Cities Energy Leader Partnership is a local government partnership comprised of the Cities of Blythe, Cathedral City, Desert Hot Springs, Indian Wells, Palm Desert, Palm Springs, and Rancho Mirage, the Agua Caliente Tribe, SoCalGas, the Imperial Irrigation District, and SCE. The program is designed to assist local governments to effectively lead their communities to increase EE, reduce GHG emissions, and promote other demand-side management and sustainability goals.

This Partnership also funds community education, marketing, and outreach efforts to create awareness and connect residents and businesses with information and opportunities to take energy actions. Additionally, the Partnership includes Strategic Plan activities, such as climate action planning, code compliance, and reach codes.

(b) Strategies Implemented in 2015

- The Partnership met monthly to discuss program goals, milestones, and marketing, training, and EE projects.
- The Partnership held quarterly working group meetings with partner Cities to discuss their ongoing projects.
- The City of Rancho Mirage completed two (2) LED street light projects.
- The Partnership assisted Agua Caliente to develop LED parking lot lighting projects.
- The Partnership assisted the City of Blythe to develop two (2) pump projects.
- The City of Rancho Mirage moved up to Gold Tier level.
- The Partnership worked with the cities to implement SCE's Direct Install Program in municipal buildings to reduce energy consumption.
- The Partnership, working with the Coachella Valley Association of Governors (CVAG), conducted trainings for the cities on Reach Codes, Title 24, and Climate Action Plans to promote strategic planning activities and educate the cities on the effects and benefits of reach codes.

11. Kern County Energy Leader Partnership

(a) Program Description

The Kern County Energy Leader Partnership (aka Kern Energy Watch Partnership) brings together three utilities, PG&E, SCE, and SCG, with eleven local governments to improve EE throughout Kern County. In 2015 Kern County assumed the role of Implementer, replacing the Kern Council of Governments. Kern County now coordinates the EE efforts of the Cities of Arvin, Bakersfield, California City, Delano, Maricopa, McFarland, Shafter, Taft, Tehachapi, and Wasco. The Kern Economic Development Corporation (KEDC), Staples Energy, and the San Joaquin Valley Clean Energy Organization also participate with Kern County Energy Leader Partnership in joint project, outreach, and training efforts.

(b) Strategies Implemented in 2015

- SCE, SCG, and PG&E executed Agreements with Kern County to implement the Partnership, replacing the previous implementer, Kern Council of Governments.
- Since the County was new in the Implementer role, most of 2015 was spent getting up to speed with previous goals and strategies identified by the municipalities, re-introducing the Partnership to the cities, and beginning new dialogue about how the Partnership can help participating cities to plan and budget for EE projects, how the cities as Partnership members can take advantage of incentives and rebates, and how the cities can use energy data to help support their push for EE in their communities.
- SCE, SCG, PG&E, the Kern Council of Governments, and the participating jurisdictions met monthly to discuss Energy Leader program goals, milestones for marketing, training, and EE projects.
- Kern County declared October as Energy Awareness month and presented the Declaration in the County's Board of Supervisors meeting.
- The Partnership participated in the Central & Coastal Partners Forum in San Luis Obispo in September, 2015, with attendance from the County and the cities of Tehachapi and Taft.

- The Partnership participated in the Statewide Energy Efficiency Forum in Sacramento in June, 2015.
- The Partnership guided residents and small businesses to SCE's core programs through its website (<http://www.kernenergywatch.com>).
- SCE, SCG, PG&E, and Kern County met with each of the Partner cities to gauge their continued interest in the Partnership and to provide them with information on utility-sponsored programs and services.
- SCE, SCG, PG&E, and Kern County participated in an All Kern Partners meeting in November, 2015, in which Partners were provided with information on benchmarking, energy audits, and utility programs.

12. Orange County Cities Energy Leader Partnership

(a) Program Description

The Orange County Cities Energy Leader Partnership includes the Cities of Huntington Beach, Westminster, Fountain Valley, Costa Mesa, and Newport Beach, as well as SCE and SCG. In addition to identifying and implementing EE retrofits for municipal facilities, the partnership also funds community education, marketing, and outreach efforts to create awareness and connect residents and businesses with information and opportunities to take energy actions, and includes Strategic Plan activities, such as climate action planning, code compliance, and reach codes.

(b) Strategies Implemented in 2015

- The Partner cities met monthly with SCE and SCG to discuss Energy Leader program goals, milestones for marketing, training, and EE projects.
- The City of Newport Beach commenced a water-energy nexus pilot project on AMI water infrastructure with Partnership support.
- The City of Newport Beach started a citywide project converting street lights to LED, coordinated by the Regional Energy Network (REN).
- The Partnership developed a robust pipeline of street light projects for the City of Huntington Beach.

- The Partnership provided technical assistance to the cities to identify suitable EE projects.
- The Partnership participated in community events, such as the SummerFest of the City of Fountain Valley and other events, to promote EE through partnership information booths, brochures, and SCE's Mobile Energy Unit.
- The Partnership collaborated with the Regional Energy Network (REN) to continue implementation of streetlight EE projects with the Cities of Huntington Beach and Newport Beach.

13. San Gabriel Valley Energy Leader Partnership

(a) Program Description

The San Gabriel Valley Energy Leader Partnership is a partnership between SCE and the San Gabriel Valley Council of Governments. The Partnership identifies opportunities for improving EE in the 29 cities of the San Gabriel Valley, offers customized incentives for municipal projects, conducts EE training and outreach events to drive participation in SCE's core programs, and provides support for long-term Strategic Plan goals such as climate action planning, code compliance, reach codes, and other Strategic Plan initiatives.

(b) Strategies Implemented in 2015

- The Partnership held regular monthly meetings to discuss program administration, marketing, and implementation efforts.
- The Partnership assisted several Partner cities in completing DR and Energy Action Plan efforts to help them move up the Energy Leader Tier levels.
- The Partnership exceeded its annual goal by completing several municipal projects.
- The Cities of Alhambra and El Monte were the largest contributors to the program's success by completing well retrofits and HVAC upgrade projects.
- The Partnership participated in approximately 39 outreach events which included several community outreach events to promote DR and EE.

- The Partnership targeted outreach in multiple cities, which included distribution of flyers at community events, outreach to local business, and participation in a lamp exchange event.
- The Partnership hosted its annual kick-off event focusing on the utilities' EE incentive application process.
- The Partnership hosted six (6) Energy Working Group meetings, comprised of city staff members responsible for managing municipal and community-wide energy programs.
- The Partnership participated in the local government Direct Install initiative.
- The Partnership held Beacon Award Recognition for the City of West Covina.
- The Partnership developed a draft Green Building manual and a Green Building Checklist, initiated design of a Green Building website, and held two (2) staff trainings on the Green Building manual and checklist.

14. San Joaquin Valley Energy Leader Partnership

(a) Program Description

The San Joaquin Valley Energy Leader Partnership is a partnership between SCE, SCG, PG&E, the Cities of Hanford, Lindsay, Porterville, Tulare, Visalia, and Woodlake, and King and Tulare Counties. The Partnership identifies opportunities for improving EE in municipal and county facilities, offers customized incentives for municipal and county projects, and conducts EE training and outreach events to drive participation in SCE's core programs.

(b) Strategies Implemented in 2015

- SCE, PG&E, SCG, the San Joaquin Valley Clean Energy Organization, and all the Partner cities and counties met monthly to discuss Energy Leader program goals, milestones for marketing, training, and EE projects.
- The Partnership participated in the Statewide Energy Efficiency Forum in Sacramento in June, 2015.

- The Partnership promoted SCE programs such as Direct Install, Energy Upgrade California, Demand Response, and On-Bill Financing.
- The Partnership presented community engagement opportunities at Partnership meetings and Energy Awareness Month community outreach events throughout the Partnership territory.
- The Partnership distributed EE and DR literature, such as Edison Be Wise with the SCE Owl coloring books, "Power Down During Peak Demand" sticker handouts, CARE brochures, Let's Talk Energy booklets, Summer Discount Plan brochures, Energy Savings Assistance Program brochures, and Summer Breeze Energy Saving booklets.
- The cities performed several EE retrofits. For example:
 - The City of Hanford completed six (6) projects yielding energy savings of approximately 17,452 kWh.
 - The City of Lindsay completed four (4) projects yielding energy savings of approximately 14,106 kWh.
 - The City of Visalia completed six (6) projects yielding energy savings of approximately 124,584 kWh.
 - The City of Woodlake completed one (1) project yielding energy savings of approximately 3,893 kWh.
 - The County of Tulare completed three (3) projects yielding energy savings of approximately 396,898 kWh.

15. South Bay Energy Leader Partnership

(a) Program Description

The South Bay Energy Leader Partnership provides an energy resource center — the South Bay Energy Savings Center (SBESC) — and supports fifteen local governments of the South Bay and their respective communities. SCG and the West Basin Municipal Water District are also part of this partnership. The program provides energy information, workshops, and community outreach. The Energy Efficiency Plus (EE+)

element of the program provides technical assistance to cities to help identify EE opportunities and provide access to statewide and local EE incentives and rebates. The South Bay Partnership also engages in strategic planning activities, including Climate Action Plans, Enterprise Energy Management Information Systems, and online permitting.

(b) Strategies Implemented in 2015

- The Partnership conducted monthly meetings with all the Partners and weekly conference calls which focused on EE projects.
- The Partnership completed five (5) energy efficiency projects.
- The Partnership continued working to support the member cities to adopt Climate Action Plans (CAPs) and/or Energy Action Plans (EAPs), or to adopt EE language into another policy document such as a General Plan, to reduce community GHG emissions. Fifteen Partnership cities now have approved CAPs.
- The SBESC continued to promote community EE and/or DR awareness by producing items (such as water bill inserts and inserts in the shape of a refrigerator promoting SCE's Appliance Recycling Program) in the South Bay region.
- The Partnership conducted over 100 educational events throughout the 15 Partner cities, including workshops and Farmers' Market events.
- The partnership held an Annual Holiday Light Exchange serving more than 200 households with ENERGYSTAR[®]-rated holiday LED strands in exchange for old incandescent strands.
- The Partnership continued to promote the benefits of participating in Beacon Award activities.

16. South Santa Barbara County Energy Leader Partnership

(a) Program Description

The South Santa Barbara County Energy Efficiency Partnership includes SCE, Santa Barbara County, and the Cities of Santa Barbara, Goleta, and Carpinteria. The program

generates energy savings through identification of municipal EE projects and also provides education, training, and marketing and outreach. Cities complete retrofits of their own facilities and conduct community sweeps as well as outreach to residential and business communities to increase participation in core programs. The Partnership:

- Funnel customers to existing SCE core EE programs, and acts as a portal for other demand-side management offerings, including the Income-Qualified Energy Savings Assistance (ESA) and CARE Programs, DR programs, and the Self-Generation and California Solar Initiative Programs
- Provides energy information to all market segments
- Identifies projects for municipal retrofits, and
- Includes Strategic Plan activities, such as climate action planning, code compliance, reach codes development, and other Strategic Plan initiatives.

(b) Strategies Implemented in 2015

The Partnership:

- Continued to meet monthly to effectively share information about the Partnership's upcoming events and to discuss community needs and program implementation.
- Completed five (5) retrofit projects for the City and County of Santa Barbara, including projects at the Police Station, El Estero Water Treatment Plant, and two (2) exterior lighting projects.
- Identified and scoped numerous EE opportunities with the City of Santa Barbara for well and pump retrofits.
- Submitted eight (8) new project applications, with seven (7) taking advantage of On-Bill Financing (OBF). Five (5) of these applications are for street lighting opportunities.
- Coordinated two (2) refrigerator and freezer pickup events.
- Participated in the Earth Day Festival to promote community home EE.
- Continued to partner with the Green Business Program—Santa Barbara County (GBPSBC), a voluntary certification program that encourages businesses to

implement actions to protect, preserve, and improve the environment above and beyond what is required by law. GBPSBC offers assistance and incentives connecting dozens of regional businesses with utility rebates and programs, such as SCE's Nonresidential Direct Install Program.

- Coordinated and organized the South County Energy Summit at the University of California at Santa Barbara (UCSB).
- Participated in a local government Direct Install Initiative.
- Offered Title 24 trainings in collaboration with the utilities' Codes & Standards Program and an Energy and Water Expo.

In addition, the City of Santa Barbara received a Beacon award.

17. Ventura County Energy Leader Partnership

(a) Program Description

The Ventura County Regional Energy Alliance (VCREA), in partnership with SCG and SCE, builds on progress to date towards implementing a targeted Public Sector Program of energy savings for public agencies throughout the Ventura County region. VCREA supports efforts for nine (9) cities (Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, Santa Paula, Thousand Oaks, and Ventura) and the County of Ventura to engage in the Energy Leader Model program, and utilizes the strengths of the VCREA and its utility partners to assist public agencies in leading their communities to greater participation in EE programs.

(b) Strategies Implemented in 2015

- The Partnership continued to meet monthly to discuss initial contract formats, Energy Leader program goals, marketing milestones, training, and EE projects.
- The Partnership completed nine (9) EE projects in 2015, including water pump rehabs, interior and exterior LED lighting, projects at wastewater treatment plants, and park lighting projects.
- The Partnership submitted applications for 13 new projects identified through audits completed by Partnership technical assistance. Five (5) of the new projects

were for Savings By Design (SBD) opportunities that were initially discussed in Partnership meetings and events, including two (2) for the County of Ventura and three (3) for the city of Santa Paula.

- The Partnership conducted Partner workshops and trainings on Basic HVAC, as well as a Climate on the Move Workshop for all Energy Champions (individuals selected to lead Partnership activities in their cities).
- The City of Fillmore implemented its Energy Action Plan and the City of Thousand Oaks neared completion of its EAP in 2015.
- Fillmore became the first city in Ventura County to reach Platinum Tier Level.
- The Partnership held a presentation at the County of Ventura Board of Supervisors meeting to celebrate Ventura County becoming the first county to reach Gold Tier Level.
- The Partnership distributed a quarterly newsletter with information on SCE program offerings and training classes.
- The Partnership completed strategic planning efforts, including a GHG inventory for all cities and a countywide GHG emissions inventory. A workshop was also held to solicit feedback from the cities and to set achievable goals for the region. The template Climate Action Plans were presented to the VCREA Board in October, 2015.

18. Western Riverside Energy Leader Partnership

(a) Program Description

The Western Riverside Energy Leader Partnership (WRELP) delivers energy savings by implementing EE measures in municipal facilities. The partnership offers marketing, education, and outreach to local governments and their communities, coordinates with core utility EE and DR programs, and provides Strategic Planning assistance to participating cities.

(b) Strategies Implemented in 2015

- The Partnership conducted SCE monthly and quarterly meetings to discuss Energy Leader Program goals and milestones for marketing, training, and EE projects.
- The Partnership continued to promote SCE's DR programs and encourage Partner cities to participate.
- The Partnership conducted numerous community events in various Partner cities, which included SCE's Mobile Energy Unit.
- SCE partnered with the Regional Energy Network to help the City of Murrieta identify future municipal energy projects.
- The Partnership completed Strategic Plan Solicitation Phase II activities.
- The Western Riverside Council of Governments began coordinating a regional effort for Partner cities to implement street light retrofits and maintenance activities.
- The Partnership coordinated a Holiday Light Exchange program for Partner cities.
- The Partnership, with SoCalGas and SCE's core program staff members, developed an outreach plan to promote the Energy Savings Assistance Program and Middle Income Direct Install Program to the Cities of Hemet, Temecula, and Murrieta. The promotion mailed direct-mail letters on **both** these programs, co-branded with the Partner cities' logos, to approximately 57,000 customers. Results are still being tracked and will be available in 2016.

19. High Desert Regional Partnership (formerly Adelanto Energy Leader Partnership)

(a) Program Description

The Adelanto Energy Leader Partnership was originally a partnership between SCE and the City of Adelanto. In November of 2014 the Adelanto Energy Leader Partnership transitioned to become the High Desert Regional Partnership. The Partnership officially launched in January of 2015 and now includes the cities of Adelanto, Barstow, Hesperia,

and Victorville, and the Town of Apple Valley. SCE will be filing an Advice Letter to acknowledge the change.

The Partnership sets EE goals, generates measurable, verifiable energy savings through identification of specific EE projects, and conducts community outreach activities. Projects are referred to SCE's core programs and can be residential or nonresidential, including small businesses, larger commercial and industrial businesses, municipal and other government agencies, and non-profit organizations. Low-income and DR program referrals are also included. The program offers customized incentives for municipal projects and conducts EE training and outreach events to drive participation in SCE's core programs.

(b) Strategies Implemented in 2015

- SCE, along with the implementer (San Joaquin Clean Energy Organization), held monthly meetings to discuss Energy Leader goals, marketing milestones, training, and EE projects.
- The Partnership hosted an IDSM readiness workshop that was open to local small businesses. The workshop introduced the basic fundamentals of IDSM and how customers could incorporate these strategies to control and manage electricity usage and demand while qualifying for financial incentives and other benefits.
- The Cities of Victorville and Hesperia and the Town of Apple Valley participated in SCE's Direct Install program at various city-owned facilities.
- The Partnership participated in multiple community events emphasizing EE through brochures and the use of SCE's Mobile Energy Unit, including: the 2015 Spring Festival, the 31st Annual High Desert Spring Home Show, and the 42nd Annual Cinco De Mayo Family Festival.
- The Partnership provided technical assistance and guidance on SCE program offerings, incentives, and financing options to help the Partner cities develop energy retrofit projects.
- The Partnership participated in the Statewide Energy Efficiency Forum in Sacramento in June, 2015.

20. West Side Energy Leader Partnership

(a) Program Description

The West Side Energy Leader Partnership is a local government partnership comprised of the City of Culver City and SCE. Partnership activities focus on implementing EE in municipal facilities and promoting EE in the community. The partnership establishes energy savings goals for EE retrofit of city-owned facilities, and identifies, scopes and implements EE projects. The Partnership also funds community education, marketing and outreach efforts to create awareness and connect residents and businesses with information and opportunities to take energy actions. Additionally, the partnership includes Strategic Plan activities, such as climate action planning, code compliance, and reach codes.

(b) Strategies Implemented in 2015

- Continued to hold bi-monthly Efficiency Now! Team meetings with city team leaders and facility-related city staff, utility account representatives and Public Affairs managers, and The Energy Coalition (TEC) staff. The purpose of these team meetings is to further cement working relationships among the partners that were essential in successfully reaching all program goals in 2015 and to maintain a focus on EE and sustainability.
- Completed one (1) energy efficiency project.
- Continued to promote IDSM audits and DR programs during team meetings.
- Coordinated outreach efforts with SCE's Nonresidential Direct Install Program.
- Distributed information on the following programs: HEES Surveys, Operation Light Exchange Events, CSI (California Solar Initiative), and the Appliance Recycling Program.
- Regularly produced "accomplishments" executive summaries to showcase Culver City's achievements, and distributed them to the City Manager, City Council members, and other city decision-makers.

21. North Orange County Cities Energy Leader Partnership

(a) Program Description

The North Orange County Cities Energy Leader Partnership is a local government partnership comprised of the Cities of Brea, Buena Park, Fullerton, La Habra, La Palma, Orange, Placentia, and Yorba Linda, along with SCE, SCG, and The Energy Coalition (TEC) as the implementing vendor. Partnership activities focus on implementing EE in municipal facilities and promoting EE in the community. The Partnership:

- Establishes energy savings goals for EE retrofit of city-owned facilities
- Identifies, scopes and implements EE projects
- Funds community education, marketing and outreach efforts to create awareness and connect residents and businesses with information and opportunities to take energy actions, and
- Includes Strategic Plan activities, such as climate action planning, benchmarking policies, and greenhouse gas inventories.

(b) Strategies Implemented in 2015

- Initiated monthly Efficiency Now! Team meetings with City Team Leaders and facility-related city staff, IOU Account Representatives and Public Affairs Managers, and TEC staff. The purpose of these team meetings is to further cement new working relationships among Partner cities, the IOUs, and TEC that were essential in successfully reaching all program goals in 2015 and maintain a focus on EE and sustainability.
- Continued to promote IDSM audits and DR programs to partner cities during team meetings.
- Coordinated with SCE on outreach efforts for the Nonresidential Direct Install program in several partner cities.
- Distributed information regarding the following programs: HEES Surveys, Operation Light Exchange Events, CSI (California Solar Initiative), and the Appliance Recycling Program.
- Initiated coordination of multiple Community Outreach events.

- Regularly produced "accomplishments" executive summaries to showcase the achievements of the participating cities, and distributed them to City Managers, Council Members, and city decision-makers.

22. San Bernardino Regional Energy Partnership

(a) Program Description

The San Bernardino Regional Energy Partnership (SBREP) joined SCE's Local Government Partnership Program in September of 2015. It is a joint partnership between SCE, SoCal Gas, and the San Bernardino Association of Governments. There are currently 13 member cities, the majority of which had already passed resolutions to participate in the Partnership. SBREP delivers energy savings by implementing EE measures in municipal facilities. The Partnership offers marketing, education, and outreach to local governments and their communities, coordinates with core utility EE and DR programs, and provides Strategic Planning assistance to participating cities.

(b) Strategies Implemented in 2015

- Held a kickoff meeting with Partner cities in October, 2015.
- Conducted monthly and quarterly meetings to discuss Energy Leader Program goals and milestones for marketing, training, and EE projects.
- Held "One on One" meetings with each Partner city to educate them on Partnership program elements and goals in order to move up to a higher tier in the Energy Leader Model.
- Coordinated a Holiday Light Exchange Program in December, 2015.
- Coordinated SCE's Direct Install Program with the Town of Yucca Valley and the City of Twentynine Palms.
- Selected Willdan Energy Solutions as the Partnership's Technical Assistance Vendor.
- Continued to identify potential projects by initiating energy audits at the top three (3) highest energy-consuming facilities in the Partner cities.

- Continued to promote SCE's DR programs and encourage Partner cities to participate.

B. Local Government Partnerships – County Partnerships

As noted above, the County partnerships described in this section were authorized as part of the Institutional Partnership Program and have been moved to the Local Government Partnership for reporting purposes.

23. Local Government Strategic Planning Pilot Program (Solicitation)

(a) Program Description

The Local Government Strategic Planning Pilot (Solicitation) is designed to provide increased funding and support for city, county, and regional governments to pilot activities that directly support the LGP Strategic Plan goals and strategies. These pilot programs are a result of a solicitation process whereby local governments proposed activities above and beyond normal partnership work that would directly align with the California Long Term Energy Efficiency Strategic Plan.

(b) Strategies Implemented in 2015

Los Angeles County, San Bernardino County, and Riverside County decided not to participate in the Phase 2 and 3 solicitations.

24. County of Los Angeles Energy Efficiency Partnership

(a) Program Description

The County of Los Angeles ("LA County") Partnership supports the energy reduction and environmental initiatives described in the Los Angeles County Energy and Environmental Plan, adopted in 2008, and the objectives of the California Long Term Energy Efficiency Strategic Plan. EE projects focused on County-owned municipal buildings, and included lighting, HVAC, retrocommissioning, and SBD new construction projects at each of the 38 County departments served by the Energy Management division of the County Internal Services Department. Additional efforts with the County Office of Sustainability include:

- Support and coordination for the Energy Upgrade California (EUC) Program, and

- Strategic Plan Solicitation activities that expand the County's Enterprise Energy Management Information System, allowing LA County to receive participating city data for analysis to help the cities manage energy usage better and to support identification of EE opportunities.

(b) Strategies Implemented and/or Continued in 2015

(i) Administrative Successes:

- Collaborated with LA County Internal Services Department (ISD) to capitalize on EE opportunities by working with representatives from the 38 LA County Departments served by ISD for energy management services.
- Worked with ISD, Public Works, Parks and Recreation and the Metropolitan Department of Transportation on strategies to develop energy savings opportunities and strategic implementation forecasts.

(ii) Retrofits:

- Completed retrocommissioning projects at four (4) Sheriff Stations (City of Industry, La Crescenta, Lomita, and West Hollywood) and Los Padrinos Juvenile Hall.
- Commenced EE activities at Los Angeles Metro facilities, and completed six (6) lighting projects.
- Completed pump replacement projects for LA County Public Works wells and booster stations.
- Completed installing 13 VFDs on pool pumps for the LA County Parks & Recreation department.

(iii) Strategic Planning Support:

The Partnership worked with LA County to continue efforts started in 2011 for the Strategic Plan 5.6 Solicitation. Two (2) approved efforts were completed and implemented in 2015: Expansion of the LA County Enterprise Energy Management Information System (EEMIS) to over 50 local governments, and

support of the Southern California Regional Energy Center (SoCalREC) in developing Guidebooks and Case Studies to disseminate information to local governments. These materials provide reference materials in support of EE activities (such as Financing and Program Management).

(iv) Core Program Coordination:

- Migrated local government data into the LA County Enterprise Energy Management Information System (EEMIS), with the support of SCE's IT Division, for training and use by the local governments in developing EE activities.

(v) Education and Outreach:

- Made presentations to representatives from LA County departments to increase participation in partnership activities and to look for EE projects with deeper savings opportunities.
- Participated in Local Government workshops to create awareness of LA County EEMIS.
- Continued regional workshops and hosted webinars to explain the capabilities of LA County EEMIS to local government users and LA County department staff members.

25. County of Riverside Energy Efficiency Partnership

(a) Program Description

In 2010, the County of Riverside formed a Partnership with SCE and SCG, which is intended to help the County achieve its green policy initiatives and formulate an integrated approach to EE. This collaborative effort aims to build an infrastructure that efficiently delivers cost-effective EE projects to reduce the carbon footprint created by County facilities.

The Partnership improves EE in Riverside County municipal facilities by leveraging utility resources, customized to the County's unique needs. The Partnership also supports

Riverside County in meeting (1) the CO₂ reduction requirements of AB 32 and (2) CPUC energy savings goals and objectives.

(b) Strategies Implemented in 2015

(i) Administrative Successes:

- Riverside County successfully funded projects out of the Energy Revolving Loan Fund established in 2011. This revolving loan fund receives new funding through EE and solar incentives from the utilities, which over time will increase available funding in addition to repayments from projects. In 2015, the County completed one (1) project claimed at the beginning of the year.
- In addition to EE activities, the County has successfully implemented Electric Vehicle charging locations through a State of California grant.

(ii) Retrofits:

- The County continues to participate in the SBD Program for most of its construction projects county-wide. Several new construction projects are in the pipeline.

(iii) Strategic Planning Support:

- The County did not implement any Strategic Planning activities in 2015.

(iv) Core Program Coordination:

- Continued to integrate the Savings By Design (SBD) program into the Partnership.

(v) Education and Outreach:

- Held a Title 24 training class for the County of Riverside to educate facility staff members on recent changes to State of California building codes.

26. County of San Bernardino Energy Efficiency Partnership

(a) Program Description

The County of San Bernardino Partnership is a collaborative effort with the County's Architectural and Engineering Department and other internal organizations to build an infrastructure that will deliver cost-effective EE projects and provide comprehensive outreach and energy education to facility managers. The program team works closely with nine (9) different departments within the County to learn their needs and develop strategies to address EE and DR concerns for each department.

(b) Strategies Implemented in 2015

(i) Administrative Successes:

- Held monthly Management Team meetings to discuss program status, project tracking and overall program implementation and coordination issues.
- Held regular Outreach Team meetings with project managers from various County departments to identify opportunities and provide information available on SCE resources and other core program offerings.
- Utilized technical support to better understand the operations of County facilities and worked with the County's Facilities Management department to develop strategies to operate their buildings more efficiently. Identified simple EE measures such as parking lot lamps and control strategies that can be easily implemented across all departments. The County implemented block heater and HVAC optimization throughout the facility, and continued to evaluate its need to reduce operating costs.
- Met with the Project team to discuss project status and reviewed EE opportunities with other departments such as Facilities Management, Special Districts, Sheriff, Information Technology, Library, and Fire.
- Met quarterly with the County's project managers to get project updates and helped them identify EE opportunities.

(ii) Municipal Retrofits:

- Completed five (5) Savings By Design projects: Sheriff's Department Training Center Project, Juvenile Courthouse Project, Sheriff's Department Scientific Investigation Division Project, Kessler Park Sport Fields Project, and 268 Building Remodel Project.
- Completed the first phase of a project for block heaters on backup generators. The County is expected to complete the remaining units in 2016.
- Completed optimization on HVAC 200 units throughout the County facilities.

(iii) Core Program Coordination:

- Continued to integrate the SBD program and, where applicable, DR opportunities into the Partnership.
- Utilized the Nonresidential Direct Install Program to retrofit lighting and control systems in 11 facilities.

(iv) Education and Outreach:

- Educated County project managers and staff on the importance and value of EE, motivating them to look for opportunities to reduce operating costs by implementing EE projects and conservation practices.

27. So. Calif. Regional Energy Network (SoCalREN) Fiscal Oversight Partnership

(a) Program Description

The Southern California Regional Energy Network (SoCalREN) Fiscal Oversight Partnership was approved as a pilot in the 2013-2015 Program Cycle with Los Angeles (LA) County as the lead administrator. As the fiscal managers, SCE and SCG have a joint agreement with SoCalREN, which is led by SCG.

In 2015, SCE worked cooperatively and collaboratively with SCG and SoCalREN to coordinate complementary services and create a positive, successful customer experience. Working committees were established that facilitated discussion and issue resolution. The IOU-SoCalREN Coordinating Committee met quarterly to discuss overarching and

strategic issues. The IOU-Southern California Regional Energy Center (SoCalREC)²⁶ Technical Committee met monthly to discuss program level coordination efforts. Additional coordination working meetings were conducted as needed to support implementation of the Energy Upgrade California (EUC), Finance, and SoCalREC Programs.

(b) Strategies Implemented in 2015

- Reviewed invoices supplied by SoCalREN for work performed in 2014-2015 and processed for payment.
- Participated in working meetings with LA County's financial team to resolve invoice issues within 15 days of receipt of any monthly invoice package.
- Worked on Phase II of Secure Transfer Protocol for transmitting completed EUC project data (single-family and multifamily) to the utilities.
- Maintained a database that confirms customer account validation, past participation, and contractor performance, and stores project data for reporting purposes.
- Revised the coordination plan to include water agency interactions when working with SoCalREN and SCE customers for SoCalREC.
- Modified project-specific Customer Information Service Request (CISR)²⁷ forms for the EUC and SoCalREC programs.
- Amended the SCE / SCG / SoCalREN contract to extend the funding period through 2015.
- Continued working with LA County on resolving data issues under the EEMIS project by investigating the use of the ESPI platform to provide data to SoCalREN in the future.
- Continued to have monthly statewide Multifamily Working Group meetings to ensure IOU alignment with SoCalREN.

²⁶ SoCalREC should not be confused with SoCalREN.

²⁷ The official title of all variations of the CISR Form is "Authorization or Revocation of Authorization to Receive Customer Interval Usage Information." When signed, the form allows SCE to release customers' electric usage data to other parties.

- Established a protocol for informing customers about their eligibility for low-income (aka income-qualified) programs before they agree to participate in EUC, SoCalREN, or IOU programs.
- Actively participated in technical meetings and coordinated monthly subprogram meetings.
- Worked with the SCE reporting group and the CPUC Energy Division to establish a protocol for how SoCalREN project energy savings results will be reported and flagged.
- Coordinated program messaging to reduce customer confusion where co-branding opportunities exist when implementing SCE's One Voice Program, to ensure messaging is in alignment with SCE's requirements.

C. Institutional and Government Energy Efficiency Partnership Program (IGPP)

The Institutional and Government Energy Efficiency Partnership Program (IGPP) is an umbrella program comprising four (4) Statewide subprograms, including partnerships with the California Community Colleges (CCC), California University Systems (UC and CSU), the California Department of Corrections and Rehabilitation (CDCR), and the State of California Government.

The program's objective is to reduce energy usage through facility and equipment improvements, shared best practices, education, and training. The IGPP model raises awareness of energy consumption and efficiency, builds resources and skills, and delivers energy services for deep energy savings. To reduce peak demand and create energy savings in existing facilities, the Partnership team provides core program coordination to integrate available SCE programs and services, and works with our Partners' staff to develop a pool of retrofit, new construction, retrocommissioning, and monitoring-based commissioning projects for implementation.

28. California Community Colleges Energy Efficiency Partnership

(a) Program Description

The California Community Colleges (CCC) EE Partnership is a statewide program under which the IOUs and the CCC share EE best practices and implement EE projects

for immediate and long-term energy savings and peak demand reduction. Working directly with the CCC Chancellor's office, SCE and the other IOUs identify EE, retrocommissioning, monitoring-based commissioning, new construction, and emerging technologies opportunities for implementation at Community Colleges throughout the State, with 46 CCC campuses in SCE's service territory participating.

(b) Strategies Implemented in 2015

(i) Administrative Successes:

- Held Executive Team meetings to discuss overall program status and policy issues.
- Held monthly Management Team meetings to discuss program status, project tracking, and overall program implementation and coordination issues.
- Held regular Outreach Team meetings with representation from all IOUs and CCC campuses and vendors.
- Worked with campuses to enroll projects in the On-Bill Financing (OBF) Program.
- Worked with Savings By Design (SBD) Program representatives to further integrate the new construction element into existing program management processes and to identify eligible projects.
- Actively tracked project energy savings data and created regular reports to show the overall status of the program and/or of forecasts relative to goals.
- Continued holding bi-weekly project status meetings to document implementation progress, identify and resolve issues, and drive project completion.
- Held follow-up meetings at campuses to discuss long-term energy goals and develop a series of projects to achieve these goals.
- Supported CCC campuses and districts in enrolling in the ENERGYSTAR® Portfolio Manager benchmarking tool to give visibility to energy consumption on a system level. Also, assisted in utilizing the Partnership-developed

sustainability template to help drive decision-making about sustainability projects and to prioritize EE in the loading order.

(ii) Retrofit Projects:

- Implemented a streamlined monitoring-based commissioning process that was more likely to be successfully implemented in the Community Colleges environment.
- Completed 48 retrofit, new construction, and monitoring-based commissioning projects at multiple CCC campuses, including Citrus College, Chaffey College, College of the Desert, Cypress College, Moreno Valley College, Santa Barbara College, Norco College, Santa Monica College, West LA College, and others.
- Continued SCE's support of the CCC Prop 39 Program, which began in early 2013 and included hands-on services from account representatives and the Partnership team (including providing funds for enhanced outreach, developing projects, and providing technical support for the 28 districts containing 46 campuses in SCE's service territory). In 2015, the Partnership funded the identification of over 100 CCC Prop 39 projects, representing projected energy savings of 7.7 million kWh.

(iii) Education and Outreach:

- Evaluated emerging project technologies (that is, possible new measures) for implementation in the Community College market.
- Participated in five (5) CCC conferences, including the CA Higher Education Sustainability Conference and the Community College Facility Coalition Conference, to provide outreach to campuses and facilities staff.
- Hosted two (2) Campus Forums to provide regional informational workshops targeted towards campus facilities and energy managers. Presentations included updates on the Proposition 39 Guidelines and changes in the 2013 Title 24 code and Prop 39 Zero Net Energy Pilot Program.

- Leveraged IOU Energy Resource Centers to conduct training for CCC staff and EE vendors.

29. California Dept. of Corrections and Rehabilitation (CDCR) EE Partnership

(a) Program Description

The CDCR Partnership is a statewide program designed to achieve immediate and long-term peak energy demand savings and establish a permanent framework for sustainable, comprehensive energy management programs at CDCR institutions served by the IOUs. Through statewide coordination, the four IOUs work with the Energy, Sustainability and Infrastructure Section (under the Facility Planning, Construction and Management [FPCM] Division of CDCR) and with their contracted Energy Service Companies (ESCOs) to ensure implementation of projects that maximize energy savings opportunities in a cost-effective manner. Complementing this are education and outreach efforts for prison facilities operations and maintenance staff to adopt best EE and DR practices and support CDCR's pursuit of all types of financing to fund a robust pipeline of projects with deep energy savings.

(b) Strategies Implemented in 2015

(i) Administrative Successes:

- The Partnership met every three (3) weeks with Partnership teams and stakeholders (internal and external) to discuss project opportunities and legislative issues related to EE and DR.
- The Partnership performed prison site outreach and audits to identify additional opportunities to integrate EE strategies.
- The Partnership worked with the FPCM Division to negotiate with CDCR's ESCOs so that CDCR could continue to successfully use the On-Bill Financing (OBF) Program as one of the major funding sources for projects. FPCM made sure that CDCR can accept OBF funding when it is approved and issued at the successful completion of a project.
- The Energy Division agreed to look into the applicability of Title 24 to

prisons. It was CDCR's contention that Title 24 does not apply to prisons and that, therefore, the existing fixtures need to be considered as the project energy baseline for energy efficiency calculation purposes.

(ii) Retrofit/Projects:

- Completed two (2) retrofit projects in SCE service territory.
- Continued to work with CDCR to develop more IDSM projects to add to the current pipeline in order to ensure the long-term sustainability of CDCR's effort to reduce energy use. Conducted site audits to identify opportunities and issued RFPs to CDCR's ESCO pool to develop project proposals.

(iii) Education and Outreach:

- Conducted a new construction workshop tailored to CDCR's contracted design firm.

30. State of California Energy Efficiency Partnership

(a) Program Description

The State of California Energy Efficiency Partnership is a statewide program designed to achieve immediate and long-term peak energy demand savings and establish a permanent framework for sustainable, comprehensive energy management programs at state-owned facilities served by California's four large IOUs. This is accomplished by collaborating with the Department of General Services in establishing an ESCO pool to help facilitate implementation of EE projects. In addition, the revival of the Department of Finance's Energy \$Mart program that occurred in 2013 will provide financing for projects. This level of engagement and establishment of infrastructure are important in achieving immediate EE savings along with long-term sustainability.

(b) Strategies Implemented in 2015

(i) Administrative Successes:

- The Partnership, including all four IOUs, continues to support the Department of General Services Statewide Energy Retrofit program and ensures that

projects developed have program influence in order to maximize monies available for funding projects.

- The Partnership continues to participate in the State of California Sustainable Building Working Group, which consists of agency sustainability managers, with the task of planning and implementing all aspects of the Governor's Executive Order B-18-12.
- The Partnership continues its regional level approach to identifying EE opportunities rather than relying on the Department of General Services' Statewide Energy Retrofit Program for project sourcing. This regional approach relies on facility-level project contracting and implementation.
- The Partnership started working with the State's Judicial Branch to develop a pipeline of opportunities for the State Courts under the Judicial Council of California (JCC). Integrated audits were performed at over 28 courts in Southern California. The JCC is actively seeking funding and implementation vendors to start a department-wide retrofit program.
- The Partnership initiated the solicitation process for a Program Administration Management (PAM) firm that would support both the State of California Partnership and the CDCR Partnership in a dual role. This PAM role was an identified improvement from a Navigant evaluation study performed on all the statewide partnerships.

(ii) Retrofit Projects:

- Completed several lighting projects at the Los Angeles County Fairgrounds.
- Completed one (1) lighting project for the Orange County Fairgrounds.

(iii) Education and Outreach:

- The Partnership team continues to work with the Department of General Services' Sustainability Task Force and the Sustainable Building Working Group to support the Governor's Executive Order B-18-12 by offering outreach and education support to the 36 State agencies to ensure sustainable

support of the State of California's efforts.

- The Partnership team is also part of the Energy Policy Action Committee that serves as an additional outreach effort to all of the State's agencies. This outreach effort is meant to garner agency support for the Governor's Executive Order B-18-12.

31. UC / CSU Energy Efficiency Partnership

(a) Program Description

The University of California / California State Universities (UC / CSU) Energy Efficiency Partnership is a unique, statewide EE program achieving cost-effective immediate and persistent peak energy savings and demand reduction. Moreover, it establishes a permanent framework for a sustainable, long-term, comprehensive energy management program at the 33 UC and CSU campuses served by California's large IOUs (SCE, SCG, PG&E, and SDG&E). The program employs four key strategies to meet its goals: EE retrofits, monitoring-based commissioning, emerging technology demonstrations, and training and education. This multifaceted approach delivers comprehensive savings, fulfills key elements in UC and CSU sustainability policies, contributes to California's national leadership in EE and climate change, and supports the Strategic Plan.

(b) Strategies Implemented in 2015

(i) Administrative Successes:

- The Partnership continued to hold Management Team meetings every three (3) weeks to conduct the business of the Partnership at the management level and coordinate the Partners.
- The Partnership held quarterly Executive Team meetings to discuss overall program status and policy issues.
- The Partnership designed an engaging new website (<http://uccsuioeee.org>) which features upcoming events and news articles, highlights Partnership savings, provides useful information on Partnership programs, and hosts

various forms required for campuses to participate.

- All the UC, CSU, and IOU Partners executed a new amendment to the Partnership Master Agreement to continue the program through 2017.
- The Partnership MBCx (Monitoring-Based Commissioning) Team published updated MBCx project guidelines in response to feedback from CPUC Energy Division reviewers. Guidelines cover all phases of the MBCx process and provide guidance on selecting sites, metering, and measurement and verification.
- The University of California, in consultation with the IOUs, began developing a whole-building pilot program consistent with SB 350, AB 802, and AB 1150 to demonstrate measured energy savings against pre-existing conditions. The pilot will use a pay-for-performance and comprehensive whole-building approach to building efficiency.
- The Partnership developed a mobile (web or smartphone) project tracking and scheduling tool that provides the Partners with an easier way to update their project schedules and avoids browser compatibility issues.

(ii) Retrofit Projects:

- Completed 37 retrofit, monitoring-based commissioning, and New Construction projects at three (3) UC campuses and five (5) CSU campuses in SCE's service territory.
- Continued working with UC and CSU to develop a comprehensive pool of EE projects, and to integrate new construction projects into the pool, by identifying eligible projects and working with individual campus architects and designers to help facilitate the application and approval processes.
- Continued to implement an enhanced project tracking and scheduling approach, giving UC campuses more direct control and responsibility for project tracking.
- Assisted CSU campuses in developing projects to take advantage of the CSU

Chancellor's Office Special Repairs initiative, which provides campuses with funding towards EE projects with costs of up to \$100,000. This additional funding source allowed 12 new CSU projects in SCE's territory to pursue incentives through the Partnership.

(iii) Education and Outreach:

- The Partnership Training and Education Team hosted a Campus Forum, held in March, 2015, at UC Davis, that consisted of an IOU Panel with information on Title 24 code deadlines, Lighting Approval Process and TLEDs updates, whole building studies, and Partnership plans for 2015 and the coming years.
- The Partnership hosted an Energy Managers' Meeting as a post-conference workshop of the California Higher Education Sustainability Conference, providing a new format via an interactive session for UC and CSU energy managers to share best practices, lessons learned, and other practical advice.
- The Partnership provided scholarships for Building Operator Certification and Certified Energy Manager trainings to a variety of UC and CSU campus personnel.
- The Partnership developed a new Best Practice Awards case studies approach employing a highlight video and short web-based write-ups, which will be implemented in 2016.
- The Partnership hosted a Campus Forum at CSU Dominguez Hills in November, primarily as an interactive session focused on various aspects of metering energy inputs into campus facilities.

XIII. Third-Party Programs

A. Comprehensive Manufactured Homes Program (CMHP)

1. Program Description

The Comprehensive Manufactured Homes (CMHP) Program is a direct install program designed to provide comprehensive energy efficiency (EE) services to mobile

home customers in collaboration with local communities that seek to maximize service to their residents. The program, implemented in coordination with SoCalGas, provides installation of energy-efficient products in mobile home dwellings and the common areas of mobile home parks at no charge.

The target customers for this program are mobile homes and mobile home parks that are difficult to reach by other EE programs. These mobile home customers are typically moderate- or fixed-income, elderly, retired, and disabled individuals. The program is designed to enhance EE knowledge and program participation in this market segment.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the CMHP subprogram:

- Increased implementation of HVAC measures such as quality maintenance and efficient fan controllers, improving program cost-effectiveness.
- Continued collaboration with SCE Local Public Affairs and Partnership Programs to leverage relationships with city councils and mobile home communities.
- Partnered with SoCalGas and Irvine Ranch Water District to promote water-energy conservation. Through this effort, mobile home customers received water conservation measures, such as toilets, shower heads, faucet aerators, and some landscaping measures, as add-ons to the existing products and services offered under CMHP.

B. Cool Planet Program

1. Program Description

The Cool Planet program is an education, marketing, and outreach program geared toward SCE business customers, implemented by SCE and The Climate Registry ("Registry"). The program's main objective is to promote EE as the most immediate and cost-effective means to reduce greenhouse gas (GHG) emissions, and to help SCE and the State of California meet their EE goals by adding climate change mitigation to the marketing tool kit, which has traditionally focused on saving energy and saving money.

The program incentivizes business customers who participated in SCE's IDSM programs with an energy and carbon-management benefits package, which includes Registry membership to help measure and manage GHG emissions, a publicity campaign to communicate environmental leadership and share successes with the public, and a "Climate Efficient" certificate. The assistance provided to help customers complete a high-quality GHG inventory captures any energy and carbon reductions already made, and identifies new inefficiencies found within customers' complete, operational GHG profiles.

The Registry is a non-profit organization which represents California's (and most of North America's) official voluntary GHG Registry. The Registry assists its member organizations with making an accurate, comprehensive GHG inventory, offering technical help, GHG accounting software, a "best practices" database, and a recognition program for members who set and achieve carbon reduction goals.

2. Strategies Implemented in 2015

In 2015, SCE implemented the following strategies for the Cool Planet subprogram:

- Organized an awards ceremony to acknowledge organizations' efforts to manage GHG reduction. The event was well-received by all the attendees, including the award recipients and local and state officials.
- Continued to educate staff and SCE customers about climate policies, mitigation strategies, and best practices through presentations and distributed collateral.
- Awarded Cool Planet benefits to Local Governments that attained Partnership Gold, Silver, or Platinum Tier status.
- Continued to see increased participation in demand response (DR) and Registry membership. The Registry added DR program participation to its eligibility requirements to encourage customers who do not qualify under EE eligibility requirements to enroll as Registry members.
- Added 13 new memberships to the program and renewed 12 members through marketing and outreach efforts.

- Developed Water-Energy GHG Guidelines for SCE business customers in response to their requests for a resource to help them accurately determine the GHGs associated with energy embedded in water.
- Produced a video featuring Governor Jerry Brown, who highlighted the progress of state agencies with operations in SCE territory in meeting the Governor's Executive Order to reduce GHG emissions.

C. Healthcare Energy Efficiency Program

1. Program Description

The Healthcare Energy Efficiency Program (HEEP) addresses the complex issue of this industry's hesitancy in adopting EE behaviors, initiating facility upgrades, and achieving significant, cost-effective energy savings. HEEP is a retrofit program that provides comprehensive EE services and establishes a framework for sustainable, long-term, comprehensive energy management programs at healthcare facilities served by SCE.

The Healthcare Innovative Technology EE Program (HITEEP), a retrofit subprogram described in SCE's 2013-2014 Healthcare PIP filing, serves small and mid-size healthcare customers. The program primarily targets medical office buildings and acute care facilities with low involvement by the Office of Statewide Health Planning and Development (OSHPD), and offers customized measure solutions, prescribed measure solutions, and DR solutions for these facilities' energy management needs. HITEEP provides complete audit and project identification services, in addition to incentives and fixed-unit-price measures (with or without a customer copayment) to qualified customers.

2. Strategies Implemented in 2015

- Continued outreach through SCE account executives to help customers identify eligible EE measures and to provide support services through site assessments and on-site performance measurement.
- Engaged industry professionals, contractors, and other local industry trade groups.

- Shifted program emphasis away from lighting toward deeper retrofit opportunities through HVAC upgrades, retrocommissioning, and controls systems.
- Increased focus on Pressure Independent Valve upgrades.
- Initiated reevaluation of HITEEP Program offerings to attempt deeper market penetration into small and mid-sized medical facilities that may not have as many available financial resources as larger facilities have. The customer base is now interested in a different mix of low-cost and no-cost measures than those offered when the program was initially designed.
- Networked with EE industry peers and promoted HEEP and HITEEP Program successes and future challenges at the ACEEE "Energy Efficiency as a Resource" conference held in Little Rock, Arkansas in 2015.

D. Data Center Energy Efficiency Program

1. Program Description

The Data Center Energy Efficiency Program (DCEEP) addresses the complex issues of this industry's hesitancy in adopting EE behaviors, initiating facility upgrades, and achieving significant, cost-effective energy savings. DCEEP is a comprehensive retrofit program targeting small, medium, and large data centers as well as other information technology (IT)-related facilities. The Program provides an integrated approach by delivering EE upgrades to IT equipment and optimizing cooling-related systems.

2. Strategies Implemented in 2015

- Continued outreach through SCE account executives to identify EE measures and support services through site assessments and on-site performance measurement.
- Developed a new retrofit measure for ultrasonic humidifiers.
- Proposed a new customer screening methodology to Commission Staff for airflow management projects to preclude potential for free ridership.
- Provided a wide range of support services to data centers, including energy assessments, engineering analysis, project implementation consulting, financial

incentives, and coordination of other demand reduction activities (with SCE) to comprehensively address the needs of the targeted facilities.

- Was highly involved in both local and international industry data center trade groups, and leveraged industry contacts with data center companies in other utility service territories that also operate data centers in SCE's service territory.

E. Lodging Energy Efficiency Program

1. Program Description

The Lodging Energy Efficiency Program (LEEP) is a comprehensive EE retrofit program that delivers multi-measure retrofits and retrocommissioning to small, medium, and large lodging facilities. The Program provides an integrated approach to EE that is specifically tailored to the hotel and motel market segment, including spas and resorts, within SCE's service territory. The Program also seeks out DR opportunities in this market segment.

2. Strategies Implemented in 2015

- Continued outreach through SCE account executives to help customers identify eligible EE measures and to provide support services through site assessments and on-site performance measurement.
- Provided supplemental technical consultations through the implementer with respect to energy-saving equipment and control strategies.
- For select customers, provided turnkey support of EE measures.
- Implemented a more robust Quality Control (QC) procedure, including a QC checklist to improve the quality of various deliverables (such as project feasibility studies and installation reports) in order to meet new and existing Commission directives and policies and/or SCE management requirements.
- Continued to explore and implement new, innovative technologies to help lodging customers.

F. Food & Kindred Products Program

1. Program Description

The Food & Kindred Products Program is designed to deliver energy savings and demand reduction by offering qualifying SCE customers a variety of services: facility audits, design and engineering support, implementation support, vendor review, measurement and verification, and incentives for the installation of EE measures. The program targets facility owners in the food & kindred products industry, ranging from small to large companies, and representing a broad spectrum of food producers, such as producers of bread, breakfast cereals, and sugar, and cold storage providers.

2. Strategies Implemented in 2015

- Continued outreach through SCE account executives to help customers identify eligible EE measures and to provide support services through site assessments and on-site performance measurement.
- Participated in trade shows, such as Ag Tech, Con Edison Summit, Young Professional Engineers, and a variety of industry trade association events.
- Continued to expand expertise in refrigeration to better assist the industry in achieving deep energy savings.

G. Primary and Fabricated Metals Program

1. Program Description

The Primary and Fabricated Metals Program delivers energy savings and demand reduction by offering qualifying SCE customers a variety of services: facility audits, design and engineering support, implementation support, vendor review, measurement and verification, and incentives for the installation of EE measures. Target customers for the program include the many facilities in the primary and fabricated metals and industrial gas²⁸ manufacturing industries in SCE's service territory.

²⁸ Industrial gases are a group of commercially manufactured gases sold for uses mainly in industrial processes such as steelmaking, oil refining, medical applications, fertilizer, and semiconductors.

2. Strategies Implemented in 2015

- Continued outreach through SCE account executives to help customers identify eligible EE measures and to provide support services through site assessments and on-site performance measurement.
- Participated in trade shows, such as Ag Tech, Con Edison Summit, Young Professional Engineers, and a variety of industry trade association events.

H. Nonmetallic Minerals and Products Program

1. Program Description

The Nonmetallic Minerals and Products Program provides a cost-effective process for improving the EE of large industrial customers, among which are cement production plants and other non-metallic mineral miners or processors, aerospace and other transportation vehicle manufacturing, and wood and paper manufacturing. The program provides comprehensive assistance in identifying and implementing EE improvements at individual sites.

2. Strategies Implemented in 2015

- Continued outreach through presentations to trade groups, industry functions, and conferences serving local manufacturers.
- Continued outreach through SCE account executives to help customers identify eligible EE measures and to provide support services through site assessments and on-site performance measurement.

I. Comprehensive Chemical Products Program

1. Program Description

The Comprehensive Chemical Products Program delivers reliable electric energy savings and demand reduction for the chemical and allied products, transportation equipment manufacturing, and beverage industries throughout SCE's service territory. The program oversees activities including marketing, recruitment, installation and verification of EE measures, and incentive or rebate payment, and coordinates efforts of industrial end-users, vendors, trade associations, and utility personnel to overcome

market barriers and maximize savings. It applies a comprehensive approach that optimizes energy savings and peak demand reduction while helping customers identify opportunities for DR, reduced air pollutant and GHG emissions, efficient water use, and distributed renewable generation.

2. Strategies Implemented in 2015

- Continued outreach through SCE account executives to help customers identify eligible EE measures and to provide support services through site assessments and on-site performance measurement.
- Continued to reach out to targeted trade associations and to attend industry functions and conferences that serve local manufacturers.
- Continued to reach out to equipment manufacturers, dealers, installers, and vendors through e-mails, phone calls, visits, and trade shows.

J. Comprehensive Petroleum Refining Program

1. Program Description

The Comprehensive Petroleum Refining program targets all the major petroleum refineries and petroleum product manufacturers in SCE's service territory to produce long-term, cost-effective electrical energy savings. The program achieves this goal by implementing a comprehensive set of calculated and deemed approaches to address every major electric operation within the oil refining and petroleum manufacturing industry.

2. Strategies Implemented in 2015

- Continued outreach through SCE account executives to help customers identify eligible EE measures and to provide support services through site assessments and on-site performance measurement.
- Continued to reach out to targeted trade associations, industry functions, and conferences that serve local manufacturers.

K. Oil Production Program

1. Program Description

The Oil Production program targets oil production facilities in SCE's service territory with the goal of producing long-term, cost-effective electrical energy savings by replacing or retrofitting existing motor and pumping systems with more efficient systems. The target market consists of independent oil producers and their production wells.

2. Strategies Implemented in 2015

- Continued outreach through SCE account executives to help customers identify eligible EE measures and to provide support services through site assessments and on-site performance measurement.
- Continued to reach out to target trade associations, industry functions, and conferences that serve local manufacturers.
- Continued to reach out to equipment manufacturers, dealers, installers, and the oil and gas production community through e-mails, phone calls, visits, and trade shows.

L. Refinery Energy Efficiency Program

1. Program Description

The Refinery Energy Efficiency Program (REEP) helps petroleum refineries achieve long-term, cost-effective, electrical energy savings by promoting comprehensive retrofits and new construction projects for all industrial processes and process support systems, including various technologies (such as pumps and fans, motors and drives, etc.) that help optimize energy usage in refinery processes. The program also provides customers with energy audit services to identify EE opportunities within a facility, design assistance, and financial incentives.

2. Strategies Implemented in 2015

The program continued focusing on completing existing projects by supporting customers in closing out all current activities.

M. Cool Schools Program

1. Program Description

The Cool Schools Program is designed to overcome cost constraints and trade-offs that would otherwise impede or halt EE upgrades at public schools. In general, public schools considering EE measures face the dilemma of choosing between consuming a higher proportion of capital budgets on energy-efficient but more expensive equipment, versus using more energy to power less efficient, but also less expensive, equipment. Cool Schools targets schools that present the greatest potential for energy savings resulting from the purchase and installation of highly efficient cooling equipment. A key value of the program is the penetration of a difficult, hard-to-reach market sector to encourage the installation of EE measures.

2. Strategies Implemented in 2015

- Continued collaborating with SCE customer account representatives and the implementer's Account Managers to discuss potential EE projects in K-12 schools and private colleges, in order to identify new customers' EE goals and promote viable EE measures.
- Completed energy audits and presented the findings to school and district personnel to increase participation in the program.
- Launched the "Cool Schools Graduate Initiative" with a few school districts as the initial participants. The Initiative helps schools to identify energy savings potential through no-touch / low-touch audit analysis and to develop energy action plans that can be further implemented. Participating school districts received the Initiative well when it was first introduced, but since the launch of Proposition 39 ("Prop 39"), K-12 public schools have shifted their focus to developing expenditure plans for Prop 39. As a result, the participants have not yet completed the entire Graduate Initiative.

N. Commercial Utility Building Efficiency Program

1. Program Description

The Commercial Utility Building Efficiency Program targets privately-owned commercial office buildings for an equipment incentive-centered plan, enabling the program to introduce both EE and DR measures that have traditionally had low penetration in the commercial office market. The program provides comprehensive energy audits and financial projections from in-house engineering staff, and the internal and external funding sources of the ESCO model, to a market where lack of capital has traditionally been a significant barrier to the upgrading of capital equipment. This allows for extended repayment periods, positive cash flows, and low-to-zero net up-front cost. The program also provides:

- Comprehensive EE services to commercial multi- and single-story office buildings on a first-come, first-served basis, and
- A complete turnkey program, overseeing all program activities, including marketing, recruitment, installation and verification of EE and DR measures, and incentive or rebate payment.

2. Strategies Implemented in 2015

- Continued outreach to help customers identify eligible EE measures and to provide support services through site assessments and on-site performance measurement.
- Worked with new lighting and energy contractors to develop additional channels for marketing the program.
- Shifted focus from project development to bringing existing projects to completion.
- Explored retrocommissioning opportunities as a possible new set of customer offerings.
- Continued to bring awareness of the program to new and existing SCE account representatives through internal communications and educational sessions.

O. Energy Efficiency for Entertainment Centers Program

1. Program Description

Energy Efficiency for Entertainment Centers provided EE retrofits to movie theaters, movie companies, dinner theaters, arcades, bowling alleys, casinos, fitness centers, public and private (country club) golf courses, marinas, and skiing facilities. The program performed energy audits to identify all EE and DR opportunities, and delivered subsidized implementation of low-cost and/or no-cost HVAC, lighting, plug load, and refrigeration measures.

2. Strategies Implemented in 2015

SCE discontinued the EE for Entertainment Centers Program in 2015.

P. Schools Energy Efficiency Program (SEEP)

1. Program Description

The Schools Energy Efficiency Program brings EE retrofits to public school districts, private schools, and universities. The program delivers subsidized implementation of no-cost lighting retrofit measures and performs energy audits to identify all EE and DR opportunities. The program also offers EE education to school staff and student leadership upon request.

2. Strategies Implemented in 2015

- Continued outreach to schools and universities through SCE account representatives.
- Built relationships with school district and university staff to create interest in program participation.
- Consulted with potential customers on ways to maximize their participation in the program while receiving the full benefit of funding provided by Proposition 39.
- Distributed program information to SCE account representatives to help them increase customer referrals to the program.

- Outreached to local resource and referral agencies and provided brochures to distribute to schools.
- Began re-designing the list of program measures to add newer lighting technologies (with customer co-payments) in order to leverage Prop 39 funds and positively impact the savings-to-investment ratio (SIR) of the schools participating in Prop 39.

Q. IDEEA 365 Program

1. Program Description

The statewide IDEEA 365 Program seeks information from qualified third-party implementers to propose the design and implementation of their own innovative EE-only or IDSM programs under SCE's administration.

2. Strategies Implemented in 2015

- Unlike past years where Requests for Abstracts (RFAs) opened for a short period of time, the program is now open year-round for abstract submission.
- Received six (6) abstracts from third-party implementers, and awarded a contract to one (Waypoint) in December, 2015.
- The Water Infrastructure and System Efficiency (WISE) Program, which provides water-energy solutions for water and wastewater agencies and municipalities throughout SCE's service territory, successfully enrolled projects in 2015 and leveraged other funding sources to deliver additional commitments. The program has shown promising results to date and plans are being developed to transition the program into SCE's core third party offering.

R. IDSM Food Processing Pilot

1. Program Description

The IDSM Pilot for Food Processing Program was a non-resource program. Industry, trade allies, and other partners promoted integrated energy management solutions to end-use customers in the food processing and refrigerated warehouse market segments.

The program's integrated approach combined audits for traditional measures, such as EE retrofits and upgrades, with strategies to assist customers in managing or reducing their energy demand during peak periods. By combining these approaches, the customer received a comprehensive solution for managing energy costs. This helped SCE respond to peak energy demand.

While the program implementation focused on EE, it also emphasized integrated solutions in proper sequence (EE solutions followed by DR solutions) to support the most cost-effective and satisfactory energy and financial solutions for all customers. Each project received a comprehensive DSM audit that provided recommendations on how to implement DSM and on the channels, trade allies, and specific SCE programs through which the measures would be installed.

2. Strategies Implemented in 2015

Due to lack of conversion from audits to actual IDSM projects, all pending activities in the program were completed in the 1st Quarter of 2014. No activities took place during 2015, and SCE filed Advice Letter 3370-E requesting permission to close the program on February 26, 2016.

S. Enhanced Retrocommissioning Program

1. Program Description

The primary objective of the Enhanced Retrocommissioning Program is to provide comprehensive IDSM solutions for customers through use of advanced analytic tools to identify retrocommissioning opportunities in complex buildings, including large commercial offices, hospitals, and resorts. These solutions ensure that energy savings and demand reduction will persist over time. The technical services provided in the program assist customers in identifying energy optimization opportunities in their qualifying facilities and, along with program incentives, encourage the implementation of qualifying energy saving and demand reduction measures.

2. Strategies Implemented in 2015

- Increased program outreach to implementers.

- Updated marketing collateral.
- Continued working with the implementer to focus on project development and completion.
- Identified new customer candidates for the program.

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Section 1: Energy Savings

Table 1 ¹

A	B	C	D
Table 1: <i>Electricity and Natural Gas Savings and Demand Reduction</i>			
Annual Results	Installed Savings ^[1]	CPUC Goal Adopted in D.14-10-046	% of Goal
2015 Energy Savings (GWh) – Annual ^[2]	1,527	983	155%
2015 Energy Savings (GWh) – Lifecycle ^[3]	8,416	-	
2015 Natural Gas Savings (MMth) – Annual	-	-	
2015 Natural Gas Savings (MMth) – Lifecycle	-	-	
2015 Peak Demand savings (MW) – Annual ^[2]	307	160	192%

^[1] Savings resulting from activity installed in 2015.

^[2] Includes savings associated with the Energy Savings Assistance program and Codes and Standards program.

^[3] Does not include lifecycle savings from Codes and Standards program.

In 2015, the following programs and program strategies were successfully implemented and contributed greatly to the portfolio energy savings results:

A. Primary Lighting Program

In 2015, Primary Lighting surpassed its kWh, kW, and Program Performance Metrics (PPM) targets and served the larger portfolio in achieving its goals. The program's success relied heavily on strategies to allocate upstream incentives in a way that continued to use highly cost-effective CFL measures to augment the aggressive transition to LEDs, because LEDs are comparatively low in cost-effectiveness but have great future potential. CFL types chosen were mostly those that were not available in qualifying LED products.

SCE decreased the ratio of CFL incentives in the program by about 3 times the CFL/LED ratio goal.² This resulted in a 58% increase in the sales ratio of LED products in 2015 compared to 2014. SCE made sure only those LED products consistent with the Voluntary California Quality LED Lamp Specification were eligible for the program. The total quantity of LED products rebated through the program in 2015 was more than 3.1 million.

¹ The data shown in this Annual Report is based on SCE's *ex ante* savings, adjusted for actual installations, consistent with the *ex ante* values and processes adopted by the CPUC in D.11-07-030.

² The CFL/LED ratio goal was established in Decision 14-10-046, Ordering Paragraph 19.

Market Transformation activities included increased signs in participating retailers enumerating the benefits of energy efficient lighting, particularly LEDs, increased education of participating retailers during inspections, and allocation strategies to open and penetrate new markets not previously exposed to high quality LEDs, such as small discount and ethnic grocery chains. Higher incentives were used in new and underserved markets to increase customer demand, resulting in over 670 more retailer locations carrying program LEDs than in 2014.

B. Agricultural, Commercial and Industrial Deemed Programs

The Express Solutions (Deemed) Energy Efficiency Incentives Program continues to deliver a solid performance every year. SCE took on the lead role for the Express Statewide program through monthly Statewide calls and quarterly IOU meetings. There was a rush of projects before A-Lamps, PARs, MRs, and Candelabra lamps were moved to the Midstream Lighting (point-of-purchase) Program (effective on August 1, 2015).

Express Solutions exhausted its funding for 2015 and was closed to new projects (effective on October 31, 2015) owing to a number of factors. The Solutions Directory and Express Statewide Guidelines were completely rewritten for January 2016. Included in the rewrite were a number of updates related to Express Solutions, including policies, guidelines, incentives, and verbiage. These updates will ensure higher-quality application and project submissions that should reduce the "hockey stick effect" that has been typical for the 4th Quarter of each year.

C. Plug Load and Appliance (PLA) Program

In 2015, the PLA Program achieved significant energy savings and made a substantial contribution to portfolio energy savings by focusing rebate offerings on cost-effective measures such as variable speed pool pumps, evaporative coolers, and appliance recycling. More than 8,000 rebates were provided for variable-speed pool pumps, producing energy savings of more than 9.3 million kWh and approximately 2,200 kW. Evaporative coolers accounted for 1,600 rebates and appliance recycling accounted for 32 million kWh, helping the program exceed its annual goals by 110% for kWh and 122% for kW.

D. Home Energy Advisor (HEA) Program

In 2015, the Home Energy Advisor (HEA) Program launched three (3) new behavior pilots and program initiatives to meet or exceed the annual goals for the program: Home Energy Efficiency Survey (HEES) Enhancement, Energy Pledge, and 10-10-10 Multifamily Behavior Pilot. These pilots include behavior strategies — commitment, comparative energy usage, and social norms — to drive behavior change for participants. More than 300,000 comparative-usage Home Energy Reports (HERs) were mailed to customers to help them understand their usage and learn about available SCE programs. In October, 2015, the HEA Program also launched a new Energy Efficiency Audit Tool (EEAT) to provide customers with an online survey and customized tips to help them learn how to improve comfort and reduce energy consumption at their homes. Additionally, more than 500,000 Home EE Surveys were mailed to customers to help them learn about tips and techniques to reduce energy consumption. These initiatives helped the Program surpass its kWh goal by 68% and its kW goal by 69%.

E. Nonresidential HVAC Program

In 2015, the SCE Nonresidential HVAC Program surpassed its kW target by 203%. The Program increased distributor participation in its Upstream HVAC Equipment Distributor Incentive subprogram through outreach efforts with new distributors. There was also a significant increase in the number of contractors enrolled in the HVAC Early Retirement subprogram as awareness of the subprogram grew in its second year, and the participating contractors also became more experienced and familiar with the program, leading to further increases in participation.

The HVAC Quality Maintenance (QM) subprogram increased customer participation in cost-effective measures, including enhanced ventilation controls, in 2015. Barriers to adopting advanced rooftop controls were addressed by continued outreach to customers, contractors, and distribution channels to facilitate understanding of the value and benefits of enhanced ventilation and support for incorporating the technology in their business models. The subprogram paid incentives for a total of 2,869 advanced digital economizer controls and 636 demand control ventilation **systems** with variable frequency drives.

Section 2: Emission Reductions

Table 2 ³

A	B	C	D	E	F	G	H	I
Table 2: <i>Environmental Impacts</i>								
Annual Results ^{[1][2]}	Annual tons of CO2 avoided	Lifecycle tons of CO2 avoided	Annual tons of NOx avoided	Lifecycle tons of NOx avoided	Annual tons of SOx avoided ^[3]	Lifecycle tons of SOx avoided ^[3]	Annual tons of PM10 avoided	Lifecycle tons of PM10 avoided
<i>2015 Portfolio Targets ^[4]</i>	<i>233,523</i>	<i>2,551,045</i>	<i>21</i>	<i>251</i>	<i>N/A</i>	<i>N/A</i>	<i>16</i>	<i>174</i>
2015 Total	408,603	3,985,727	34	329	-	-	29	273

^[1] Gross Results from activity installed in 2015 only.

^[2] Environmental impacts do not include any results associated with Energy Savings Assistance or Codes and Standards programs.

^[3] The avoided SOX reductions are not calculated in the E3 calculator. It was determined by E3 that none of the IOUs use coal power on the margin and the energy efficiency savings have impact on the margin only. This is the basis for the E3 analysis as reviewed by all interested parties and approved by the Commission.

^[4] SCE's Compliance Advice Letter 3149-E, filed February 10, 2015 and approved by the Commission on May 5, 2015 establishes SCE's electric emission reduction targets for the program year 2015.

This section describes programs and program strategies that were successfully implemented during the past year that contributed to the emissions reductions reported in the table above.

SCE embraces the fact that EE is the utility sector's first and most cost-effective response to global climate change, and SCE is firmly committed to making major contributions to California's climate change goals. To further SCE's commitment, its programs are designed to maximize energy savings results, and therefore are maximized to reduce greenhouse gas (GHG) emissions as well. SCE's most successful programs and program strategies are described in detail in Section 1 above.

The Commission has mandated that the utilities report their results using the Cost Effectiveness Tool (CET). This tool includes many embedded calculations, such as avoided costs and emission factors, that have been approved by the Commission. Pursuant to the Commission's authorization, SCE entered its results into the CET and determined the amount of emission reductions attributed to the successful implementation of the 2015 portfolio of EE programs. These results are shown in Table 2 above.

The following paragraphs provide a brief explanation of the assumptions used in the calculations, including the emission rate used, gas combustion type, and net-to-gross ratio:

³ The data shown in this Annual Report is based on SCE's *ex ante* savings, adjusted for actual installations, consistent with the *ex ante* values and processes adopted by the CPUC in D.11-07-030.

1. The environmental benefits (annual and lifecycle CO₂, NO_x, and PM₁₀ reductions) described in this document are pursuant to the values adopted in D.05-04-024, as developed by Energy and Environmental Economics, Inc. (E3) and produced in their 2004 Report. In April 2010, the Commission issued D.10-04-029 which updated the price of CO₂ to \$30 per ton.
2. E3 calculated the avoided environmental cost, or emissions costs, as the sum of NO_x, PM₁₀, and carbon emission (CO₂) costs, increased by marginal energy losses for each time of use (TOU) period. E3 estimated the emissions avoided-cost streams by multiplying the costs per pollutant (on a yearly basis) by the emission rate (per hour of the year). The emissions costs vary by voltage level, hour, and year.
3. The NO_x costs (\$/MWh) are based on California offset prices generators must pay for NO_x emissions, and the estimated emission rate of NO_x at the implied heat rate of the market price. The NO_x cost per MWh of energy saved at the customer site is increased by the incremental energy losses in each TOU period between the end use and the bulk system. In Period 1, when the forward market prices of electricity are based on NYMEX forward market prices, the assumption is that these prices already include the cost of NO_x emissions, so this value is equal to zero in Period 1.
4. The PM₁₀ costs (\$/MWh) are computed similarly to the NO_x costs, with the emission cost based on the California PM₁₀ market prices and the estimated rates of emissions by the implied heat rate. The PM₁₀ costs are also assumed to be included in the NYMEX forward market prices.
5. The CO₂ costs (\$/MWh) are valued at \$30 per ton, as prescribed in D.10-04-029.

The environmental benefits utilized in the cost-effectiveness analysis of the programs included in this document are only applicable to EE program reporting. The factors utilized in the development of these environmental benefits were agreed upon specifically to reflect an appropriate and approximate value for the reduced energy savings due to EE programs. As such, these environmental benefits should not be used in any other context and should also be reviewed for future use in EE program planning and evaluation.

The emission reduction values for NO_x are not included in the environmental benefits (annual or lifecycle) in this document, since such values were not included in D.05-04-024 as developed by E3 and produced in their 2004 Report.

These numbers are consistent with the current developments in the greenhouse gas proceeding currently pending before the Commission, R.06-04-009⁴ (or its successor proceeding).

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⁴ R.06-04-009, Order Instituting Rulemaking to Implement the Commission's Procurement Incentive Framework and to Examine the Integration of Greenhouse Gas Emission Standards into Procurement Policies.

Section 3: Expenditures

Table 3 ⁵

A	B	C	D	E
Table 3:				
<i>Expenditures</i>				
Summary of Portfolio Expenditures	2015 Adopted Program Budget ^[1]	Cumulative Annual Expenditures ^[2]	Percent of Portfolio Budget	Percent of Total Annual Expenditures
Total Portfolio Expenditures				
Administrative Costs	\$ 29,131,191	\$ 20,749,257	6.23%	6.64%
Marketing/ Advertising/ Outreach Costs	\$ 10,404,846	\$ 9,568,628	2.87%	3.06%
Direct Implementation Costs	\$ 280,450,963	\$ 274,022,029	82.21%	87.68%
Total Portfolio Expenditures ^[3]	\$ 319,987,000	\$ 304,339,914	91.31%	97.38%
<i>Total Competitive Bid Program Expenditures (sub-component of portfolio) ^[4]</i>				
Administrative Costs	\$ 12,857,827	\$ 8,560,273	2.57%	2.74%
Marketing/ Advertising/ Outreach Costs	\$ 3,160,544	\$ 3,747,685	1.12%	1.20%
Direct Implementation Costs	\$ 89,224,905	\$ 73,538,957	22.06%	23.53%
Total Competitive Bid Program Expenditures	\$ 105,243,276	\$ 85,846,915	25.76%	27.47%
<i>Total Partnership Program Expenditures (sub-component of portfolio)</i>				
Administrative Costs	\$ 2,444,624	\$ 2,914,570	0.87%	0.93%
Marketing/ Advertising/ Outreach Costs	\$ 831,399	\$ 418,490	0.13%	0.13%
Direct Implementation Costs	\$ 20,409,955	\$ 15,955,634	4.79%	5.11%
Total Partnership Program Expenditures	\$ 23,685,978	\$ 19,288,694	5.79%	6.17%
Total EM&V Expenditures (separate from portfolio)				
EM&V IOU	\$ 3,666,575	\$ 2,237,453	0.67%	0.72%
EM&V JOINT STAFF	\$ 9,666,425	\$ 5,938,422	1.78%	1.90%
Total EM&V Expenditures	\$ 13,333,000	\$ 8,175,875	2.45%	2.62%
<i>Pre 2013-2014 Carryover Expenditures</i>				
Administrative Costs		\$ (199,284)		
Marketing/ Advertising/ Outreach Costs		\$ 57,186		
Direct Implementation Costs		\$ (193,791)		
EM&V		\$ 3,300,647		
EE Marketing		\$ -		
Total Pre 2013-2014 Carryover Expenditures	\$ -	\$ 2,964,758		
GRAND TOTALS	\$ 333,320,000	\$ 315,480,547		

^[1] SCE's Compliance Advice Letter 3149-E, filed February 10, 2015 and approved by the Commission on May 6, 2015 contained SCE's annual budgets for program year 2015.

^[2] Budget and expenditures include financing revolving loans issued and repaid but excludes SCE's overhead costs not funded by the EE balancing account.

^[3] Does not include the budget or expenditures associated with EM&V.

For the description of SCE's Partnership programs that were included in the portfolio in the past year, see Section XII, Partnerships, above. For descriptions of programs that were selected as part of the competitive bidding process, see Section XIII, Third-Party Programs, above.

At of the end of 2015, over 34 percent of SCE's 2013-2015 EE funding was procured through a competitive bid solicitation.

⁵ The data shown in this Annual Report is based on SCE's *ex ante* savings, adjusted for actual installations, consistent with the *ex ante* values and processes adopted by the CPUC in D.11-07-030.

Section 4: Cost-Effectiveness

Table 4 ⁶

A	B	C	D	E	F	G	H	I	J
Table 4: <i>Cost Effectiveness</i>									
Annual Results	Total Cost to Billpayers (TRC) ^{[1] [2] [3]}	Total Savings to Billpayers (TRC)	Net Benefits to Billpayers (TRC) ^{[1] [2]}	TRC Ratio	Total Cost to Billpayers (PAC) ^{[1] [2] [3]}	PAC Ratio	PAC Cost per kW Saved (\$/kW) ^[4]	PAC Cost per kWh Saved (\$/kWh)	PAC Cost per therm Saved (\$/therm)
2015 Targets ^[5]	\$ 418,585,157	\$ 418,623,958	\$ 38,801	1.00	\$ 312,117,556	1.34		3.97 cents/kWh	\$0.00 /therm
2015 TOTAL	\$ 434,593,058	\$ 443,355,893	\$ 8,762,836	1.02	\$ 281,729,387	1.57		3.35 cents/kWh	\$0.00 /therm

^[1] Results from activity in 2015 only. Includes costs associated with EM&V, ME&O, Shareholder Performance Incentives, and Pension and Benefits.

^[2] Does not include costs and benefits associated with Energy Savings Assistance, SoCalREN or Codes and Standards programs.

^[3] The costs for Shareholder Performance Incentives are based on approved earnings received in 2015, not for Program Year 2015. The \$6.2M holdback from 2011 and 2012 are not included as the amount would have been attributable to previous years.

^[4] The adopted avoided cost methodology does not provide information to provide a meaningful value for PAC Cost per kW saved. The adopted avoided cost methodology created kWh costs values that vary for each hour of the year that includes kW generation capacity costs. The current PAC Cost per kWh saved includes all ratepayer financial costs incurred in producing electric savings. The same costs would have to be reallocated if a PAC Cost per kW saved were presented. Additionally, the current approved CET Calculator does not have the capability to calculate discounted kW, nor is it clear whether an annualized cost per kW saved or total cost per kW saved is more useful.

^[5] SCE's Compliance Advice Letter 3149-E-B, filed April 29, 2015 and approved by the Commission on May 6, 2015 established the cost-effectiveness of SCE's 2015 portfolio.

This section provides a description of what each metric means in terms of the overall portfolio's progress in producing net resource benefits for ratepayers.

The Total Resource Cost Test (TRC) measures the net benefits of a program as a resource versus the participants' costs and program administration costs. The TRC Net Benefits (Net Rbn) amount is the result of subtracting Total TRC costs from Total Resource Benefits. The Total Resource Net Benefit is a measure of the total resource benefits from a measure or program, as derived by multiplying the energy savings by the appropriate avoided costs and reduced by the net-to-gross ratio. Total TRC Costs shown in the tables include the sum of the total administrative costs and the incremental measure or participant cost. The TRC costs also represent the changes to the TRC test made in Decision 07-09-043.

The Program Administrator Cost (PAC) Test measures the net benefits of a program as a resource versus the total program costs, including both the program incentive and program administration costs. The PAC Net Benefits amount is the result of subtracting the Total PAC costs from the Total Resource Benefits, Net (Rbn). The Total Resource Net Benefit is a measure of the total resource benefits from a measure or program, as derived by multiplying the energy savings by the appropriate avoided costs and reduced by the net-to-gross ratio. Total PAC Costs shown in the tables include the sum of the total program administrative and incentive costs.

⁶ The data shown in this Annual Report is based on SCE's *ex ante* savings, adjusted for actual installations, consistent with the *ex ante* values and processes adopted by the CPUC in D.11-07-030.

The following provides a brief explanation of the assumptions used in the calculation, that is, incremental measure costs used and how rebates (transfers) were applied:

1. The cost-effectiveness tables provided in this report reflect a summary of the cost-effectiveness calculations developed for SCE's 2015 programs. These tables provide energy savings and program costs associated with activity in 2015.
2. Pursuant to Policy Rule IV.11., to the extent possible, the assumptions that are used to estimate load impacts (for example, kWh and kW savings per unit, program net-to-gross ratios, incremental measure costs, and useful lives) in the calculation of the TRC and PAC tests are taken from the Remote Ex-Ante Database Interface (READI) v.2.3.0, which houses all the Databases for Energy Efficient Resources (DEER). For measures where the required load impacts for cost-effectiveness test inputs were not available in READI v.2.3.0, SCE has developed work papers that are approved in the process outlined in D.11-07-030.

A. Units (Number and Definition)

Measure of the unit counts are displayed as collected in program tracking databases during 2015. The definition of a unit is tailored to the specifications of each individual measure offered by a program.

B. Energy and Capacity Savings (Per Unit and Total)

Annual program energy and capacity reductions are derived from ex ante estimates of energy and capacity savings. Annual program energy and capacity reduction estimates for the programs are the result of a summation of measure-level savings from the measures installed as a result of the 2015 programs. The measure-level savings information used to calculate the 2015 program results are based upon estimates contained in READI v2.3.0. If READI v2.3.0 does not contain an estimate, SCE's energy and capacity savings are documented in SCE's workpapers that are approved in the process outlined in D.11-07-030.

The gross amounts of the annual energy and capacity savings are reduced by appropriate net-to-gross ratios for the particular measure or end use and extended through their useful lives by the appropriate effective useful life estimates (see more information in the Net-to-Gross and Effective Useful Life sections, below).

For all of the tables presented in this report, SCE has presented the capacity savings based upon the estimated summer on-peak savings. Thus, the total capacity savings of each measure has been reduced to show only the applicable percentage of savings that fall in the defined summer on-peak period for the particular measure, as defined in D.06-06-063. All energy savings results are a total of the savings across all time periods.

C. Net-to-Gross (NTG) Ratio

Gross energy savings are considered to be the savings in energy and demand seen by the participant at the meter level. Net savings are assumed to be the savings that are attributable to the program; that is, net savings are gross savings minus those changes in energy use and demand that would have happened even in the absence of the program ("free riders"). The net-to-gross ratio is a factor applied to gross program load impacts to convert them into net program load impacts. This factor is also used to convert gross measure costs into net measure costs.

Each net-to-gross ratio utilized in the report is taken from READI v.2.3.0, as required by the Commission.

D. Effective Useful Life (EUL)

The EUL is the length of time (in years) for which the load impacts of an EE measure are expected to persist. Each of the EULs utilized in the report are taken from READI v.2.3.0, as required by the Commission.

E. Incremental Measure Cost (Per Unit and Total)

These costs generally represent the incremental costs of EE measures over standard replacement measures. The gross amounts of these costs are reduced by appropriate net-to-gross ratios for the particular measure or end use. SCE relies upon READI v.2.3.0 for ex ante incremental measure cost values, as required by the Commission. If READI v.2.3.0 does not contain an estimate, SCE's incremental measure costs are typically derived from a recent measure cost study and documented in SCE's work papers that are approved in the process outlined in D.11-07-030.

F. Program Incentive Cost (Per Unit and Total)

Incentive costs are the amount of incentives paid to customers during 2015. The incentive cost totals are based on per-unit incentive costs paid to the customer multiplied by the total number of units.

G. Program Administrative Cost

Program administrative costs include all expenditures directly charged to the program except incentive costs. The administrative costs consist of allocated administrative, labor, non-labor, and contract labor cost.

Labor costs consist of SCE labor charges that are directly charged to the program. These costs include salaries and expenses of SCE employees engaged in developing energy-efficient marketing strategies, plans, and programs, developing program implementation procedures, reporting, monitoring, and evaluating systems. Labor costs reflected in this report are actual costs incurred in 2015 in support of the programs.

Non-labor costs include materials and other miscellaneous costs charged directly to the program. These costs include items such as booklets, brochures, promotions, training, membership dues, postage, telephone, supplies, printing and photocopying services, and computer support services.

Contract labor costs consist of contract employees and consultant labor charges that are directly charged to the program. These costs include salaries and expenses of contract employees and consultants engaged in developing energy-efficient marketing strategies, plans, and programs, developing program implementation procedures, reporting, monitoring, and evaluating systems.

Allocated administrative costs represent those for building lease and maintenance costs and management oversight expenditures.

The figures in the tables provided in this report, which include modifications to the cost-effectiveness calculations, are consistent with instructions provided by the Commission and/or pursuant to the direction of the Energy Efficiency Policy Manual; the avoided costs rulemaking (R.04-04-025); the December 21, 2006 ALJ Ruling; and recent Decisions related to EE cost-effectiveness, including D.06-06-063, D.07-09-043, D.09-09-047 and D.14-04-046.

Section 5: Bill Payer Impacts

Table 5 ⁷

A	B	C	D	E
Table 5: <i>Ratepayer Impacts</i>				
	Electric Average Rate (Res and Non-Res) \$/kWh ^[1]	Gas Average Rate (Core and Non-Core) \$/therm	Average First Year Bill Savings (\$)	Average Lifecycle Bill Savings (\$)
2015				
SCE	\$0.169	\$0.000	\$ 202.24	\$ 1,672.88
^[1] SCE's average rate electric rate for bundled-service customers ^[2] Average first year electric bill savings is calculated by multiplying an average electric rate with first year gross kWh energy savings. ^[3] Average lifecycle electric bill savings is calculated by multiplying an average electric rate with lifecycle gross kWh energy savings. ^[4] 2014 first year and lifecycle net KWh savings excluded Codes & Standards, Energy Savings Assistance, and Carryover CFL savings				

This section provides an explanation of the impact of the EE activities on customer bills relative to the level without the EE programs.

In 2015, SCE was authorized to collect \$333 million (D.14-10-046) in rates to implement approved EE programs. Customer bills included the authorized collection on January 1, 2015, the date the program year began. Therefore, EE programs increase customer bills "up front," as funds are collected to fund the EE programs. However, upon implementation, the programs result in lower customer energy usage due to improvements in EE and subsequent reductions to participants' bills. In the long term, all users will benefit through reductions in the avoided costs of energy. The tables provided above show the bill impacts on participating customers in 2015.

The following provides a brief explanation of the assumptions used in the calculation:

1. The customer bill impacts included in this report reflect the net impact on bills, accounting for the benefits of the programs. The overall impact of SCE's programs is that customer bills will decrease relative to the level of billing without the EE programs.
2. The following methodology was utilized for the calculation of bill impacts resulting from the 2015 EE portfolio:

⁷ The data shown in this Annual Report is based on SCE's *ex ante* savings, adjusted for actual installations, consistent with the *ex ante* values and processes adopted by the CPUC in D.11-07-030.

- The calculation methodology for determining the average first-year bill savings utilizes the total gross energy savings per year multiplied by the average rate denominated in kWh. The product of these numbers results in a total bill savings for all program participants.
- Similarly, the calculation methodology for determining the average lifecycle bill savings utilizes the total lifecycle gross energy savings multiplied by the average rate denominated in kWh. The product of these numbers results in a total lifecycle bill savings for all program participants.

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Section 6: Green Building Initiative

Table 6 ⁸

A	B	C	D	E	F	G	H	I	J	K
Table 6 : <i>Green Building Initiative</i>										
			GWh				MW			
2015	Expenditures ^[1]	Goal ^[2]	Annual ^[3]	% of Goal	Goal ^[2]	Annual ^[3]	% of Goal	Goal ^[2]	Annual ^[3]	% of Goal
SCE	\$ 123,230,729	779	751	96%	149	119	80%	-	-	-

^[1] Expenditures reflect incentive payments from activity installed in 2015 only.

^[2] The Commission adopted the 2015 Annual Electric Goals in D.14-10-046. SCE's Compliance Advice Letter 3149-E-B, filed April 29, 2015 and approved by the Commission on May 6, 2015. Goal does not include savings from Codes and Standards Advocacy.

^[3] Results from activity that met the building classification definition and were installed in 2015 only.

The following provides descriptions of the programs that contributed to Green Building Initiative (GBI) savings.

Governor Arnold Schwarzenegger signed Executive Order S-20-04 regarding Green Buildings on December 14, 2004. It established the State of California's priority for energy and resource-efficient high-performance buildings, set a goal of reducing energy use in state-owned buildings by 20 percent by 2015 (from a 2003 baseline), and encouraged the private commercial sector to set the same goal. The order also directed compliance with the Green Building Action Plan, which details the measures the State will take to meet these goals.

SCE is committed to helping California meet the Governor's GBI goals. In 2015, SCE successfully implemented the EE programs (listed below) which made significant contributions and progress towards achieving the GBI energy savings goals indicated in the table above.

- Agriculture Energy Efficiency Program
- California Statewide Program for Residential Energy Efficiency
- Chemical Products Efficiency Program
- Commercial Energy Efficiency Program
- Commercial Utility Building Efficiency
- Comprehensive Beverage Manufacturing and Resource Efficiency
- Comprehensive Chemical Products
- Comprehensive Manufactured Homes

⁸ The data shown in this Annual Report is based on SCE's *ex ante* savings, adjusted for actual installations, consistent with the *ex ante* values and processes adopted by the CPUC in D.11-07-030.

- Cool Schools
- Data Center Energy Efficiency
- Emerging Technologies
- Energy Efficiency for Entertainment Centers
- Energy Leader Partnership Program
- Enhanced Retrocommissioning
- Food & Kindred Products
- Healthcare EE Program
- Institutional and Government Core Energy Efficiency Partnerships
- Lighting Program
- Lodging EE Program
- Monitoring-Based Commissioning
- New Construction Program
- Nonmetallic Minerals and Products
- Primary and Fabricated Metals
- Retail Energy Action Program
- School Energy Efficiency Program
- Statewide Agriculture Energy Efficiency Program
- Statewide Commercial Energy Efficiency Program
- Statewide Industrial Energy Efficiency Program
- Workforce Education & Training.

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Section 7: Shareholder Performance Incentives

The Efficiency Savings and Performance Incentive Mechanism (ESPI) for the 2013-2014 Energy Efficiency funding cycle was approved by the Commission in D.13-09-023, dated September 11, 2013. D.14-10-046 established the ESPI coefficients for Program Year 2015.

In 2015, the Commission awarded SCE energy efficiency earnings of \$22.54 million, calculated from the results of the ex-post for Program Year 2013 and the ex-ante for Program Year 2014. SCE earned an additional \$6.2 million from Program Years 2011 and 2012 in D.15-11-004, which resolved an issue with third-party fixed-price contracts that had resulted in a holdback in previous years.

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Section 8: Savings by End-Use

Table 8 ⁹

A	B	C	D	E	F	G	H	I
Table 8: <i>Annual Savings By End-Use</i>								
2015	GWH	% of Total		MW	% of Total		MMTh	% of Total
Residential	453	29.67%		85	27.69%		-	
Appliances	8	0.50%		3	0.84%		-	
Consumer Electronics	-	0.00%		-	0.00%		-	
HVAC	17	1.12%		15	5.00%		-	
Lighting	383	25.11%		58	18.90%		-	
Pool Pump	10	0.68%		2	0.69%		-	
Refrigeration	34	2.23%		7	2.14%		-	
Water Heating	-	0.00%		-	0.00%		-	
Other	0	0.03%		0	0.11%		-	
Nonresidential	404	26.50%		70	22.90%		-	
HVAC	79	5.21%		18	5.97%		-	
Lighting	190	12.44%		31	10.15%		-	
Office	12	0.78%		3	0.95%		-	
Process	82	5.37%		12	4.06%		-	
Refrigeration	38	2.51%		5	1.50%		-	
Other	3	0.19%		1	0.28%		-	
Energy Savings Assistance Program	28	1.85%		4	1.44%		-	
Codes & Standard Energy Savings	641	41.99%		147	47.98%		-	
SCE Annual Portfolio Savings	1,527	100%		307	100%		-	

^[1] Results from activity installed in 2015 only.

^[2] SCE's Appliance Recycling program and rebates for energy efficient refrigerators are represented in the refrigeration end use.

The Commission's EE reporting requirements mandate that SCE submit regular reports to the Commission quantifying the accomplishments of the portfolio. One such requirement, reporting portfolio performance of energy savings and demand reduction by end use, as shown in the table above, is reported on a regular basis as part of SCE's monthly report. The table above illustrates the 2015 results, by end use, of SCE's portfolio of EE programs.

The 2015 Energy Savings Assistance Program relies on the most up-to-date evaluation data in order to determine the program's effectiveness. Primarily, SCE relies upon the Impact Evaluation of the 2005 California Low-Income Energy Efficiency Program Final Report, as it contains the latest and best available information for the energy savings and demand reduction

⁹ The data shown in this Annual Report is based on SCE's *ex ante* savings, adjusted for actual installations, consistent with the *ex ante* values and processes adopted by the CPUC in D.11-07-030.

associated with low-income measures for this program cycle. In cases where SCE's program implemented measures that were not evaluated as part of the aforementioned study, the program used impact figures from the Impact Evaluation of the 2001 Statewide Low-Income Energy Efficiency program and from internally developed SCE workpapers. Together, these sources stemming from vetted and approved EM&V studies developed a robust set of information that SCE relied upon to report the energy savings and demand reduction associated with its Low-Income programs.

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Section 9: Commitments

Table 9 ¹⁰

A	B	C	D	E
Table 9: <i>Commitments</i>				
Commitments Made in the Past Year with Expected Implementation <i>by</i> December 2016				
	Committed Funds ^[1]	Expected Energy Savings		
2015	\$	GWH	MW	MMTh
SCE Total	\$ 62,810,520	431	64	-
Commitments Made in the Past Year with Expected Implementation <i>after</i> December 2016				
	Committed Funds ^[1]	Expected Energy Savings		
2015	\$	GWH	MW	MMTh
SCE Total	\$ 13,950,604	50	7	-

^[1] Committed funds represent incentive amounts only.

A. List of Programs with 2015 Commitments

The following programs had commitments that will be installed in 2015 and beyond:

- Residential New Construction
- Commercial Calculated Incentives Program
- Commercial Direct Install Program
- Commercial Deemed Incentives Program
- Savings by Design
- Industrial Calculated Energy Efficiency Program
- Industrial Deemed Energy Efficiency Program
- Agriculture Calculated Energy Efficiency Program
- Agriculture Deemed Energy Efficiency Program
- Emerging Technologies Program
- City of Long Beach Energy Leader Partnership
- City of Redlands Energy Leader Partnership
- City of Santa Ana Energy Leader Partnership
- City of Simi Valley Energy Leader Partnership
- Gateway Cities Energy Leader Partnership
- Community Energy Leader Partnership
- Desert Cities Energy Leader Partnership
- Orange County Cities Energy Leader Partnership

¹⁰ The data shown in this Annual Report is based on SCE's *ex ante* savings, adjusted for actual installations, consistent with the *ex ante* values and processes adopted by the CPUC in D.11-07-030.

- San Gabriel Valley Energy Leader Partnership
- San Joaquin Valley Energy Leader Partnership
- South Bay Energy Leader Partnership
- South Santa Barbara County Energy Leader Partnership
- Ventura County Energy Leader Partnership
- Western Riverside Energy Leader Partnership
- High Desert Regional Partnership (formerly City of Adelanto Energy Leader Partnership)
- West Side Energy Leader Partnership
- California Community Colleges Energy Efficiency Partnership
- California Dept. of Corrections and Rehabilitation EE Partnership
- County of Los Angeles Energy Efficiency Partnership
- County of Riverside Energy Efficiency Partnership
- County of San Bernardino Energy Efficiency Partnership
- State of California Energy Efficiency Partnership
- UC/CSU Energy Efficiency Partnership.

In 2015, these programs secured commitments of over **\$75 million**, over **480 gigawatt-hours** of energy savings, and over **70 megawatts** in demand reduction, as shown in Table 9 above.

B. Explanation of How Commitments Are Calculated¹¹

In 2015, SCE actively enrolled customers into EE programs, which encourage customers' decisions to implement energy-efficient choices. When a customer has firmly committed to the program, an incentive payment is reserved on his or her behalf, to be paid when the customer implements the energy-efficient measure. It is only when that firm commitment is received (in the form of a contract, reservation, etc.) that it is counted as a program commitment and is reported to the Commission. The tables above summarize the energy savings and demand reductions committed to be installed by SCE customers.

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¹¹ Committed funds represent incentive amounts only.

Appendix A

Southern California Edison Programs for 2015

Appendix A contains the list of programs included in SCE's 2015 EE Portfolio, and the date the programs were added or removed, where applicable.

Table: Programs Included in SCE's 2015 EE Portfolio

CPUC ID	Program Name	Date Added	Date Removed
SCE-13-SW-001	California Statewide Program for Residential Energy Efficiency	1/1/2013	N/A
SCE-13-SW-001A	Energy Advisor Program	1/1/2013	N/A
SCE-13-SW-001B	Plug Load and Appliances Program	1/1/2013	N/A
SCE-13-SW-001C	Multifamily Energy Efficiency Rebate Program	1/1/2013	N/A
SCE-13-SW-001D	Energy Upgrade California	1/1/2013	N/A
SCE-13-SW-001E	Residential HVAC Program	1/1/2013	N/A
SCE-13-SW-001F	Residential New Construction Program	1/1/2013	N/A
SCE-13-SW-002	Statewide Commercial Energy Efficiency Program	1/1/2013	N/A
SCE-13-SW-002A	Commercial Energy Advisor Program	1/1/2013	N/A
SCE-13-SW-002B	Commercial Calculated Program	1/1/2013	N/A
SCE-13-SW-002C	Commercial Deemed Incentives Program	1/1/2013	N/A
SCE-13-SW-002D	Commercial Direct Install Program	1/1/2013	N/A
SCE-13-SW-002E	Commercial Continuous Energy Improvement Program	1/1/2013	N/A
SCE-13-SW-002F	Nonresidential HVAC Program	1/1/2013	N/A
SCE-13-SW-002G	Savings By Design	1/1/2013	N/A

CPUC ID	Program Name	Date Added	Date Removed
SCE-13-SW-003	Statewide Industrial Energy Efficiency Program	1/1/2013	N/A
SCE-13-SW-003A	Industrial Energy Advisor Program	1/1/2013	N/A
SCE-13-SW-003B	Industrial Calculated Energy Efficiency Program	1/1/2013	N/A
SCE-13-SW-003C	Industrial Deemed Energy Efficiency Program	1/1/2013	N/A
SCE-13-SW-003D	Industrial Continuous Energy Improvement Program	1/1/2013	N/A
SCE-13-SW-004	Statewide Agriculture Energy Efficiency Program	1/1/2013	N/A
SCE-13-SW-004A	Agriculture Energy Advisor Program	1/1/2013	N/A
SCE-13-SW-004B	Agriculture Calculated Energy Efficiency Program	1/1/2013	N/A
SCE-13-SW-004C	Agriculture Deemed Energy Efficiency Program	1/1/2013	N/A
SCE-13-SW-004D	Agriculture Continuous Energy Improvement Program	1/1/2013	N/A
SCE-13-SW-005	Statewide Lighting Program	1/1/2013	N/A
SCE-13-SW-005A	Lighting Market Transformation Subprogram of Statewide Lighting Program	1/1/2013	N/A
SCE-13-SW-005B	Lighting Innovation Program Subprogram of Statewide Lighting Program	1/1/2013	N/A
SCE-13-SW-005C	Primary Lighting Program Subprogram of Statewide Lighting Program	1/1/2013	N/A
SCE-13-SW-006	Integrated Demand Side Management Program	1/1/2013	N/A
SCE-13-SW-007	Statewide Finance Program	1/1/2013	N/A
SCE-13-SW-007A	On-Bill Financing	1/1/2013	N/A

CPUC ID	Program Name	Date Added	Date Removed
SCE-13-SW-007B	ARRA-Originated Financing	1/1/2013	N/A
SCE-13-SW-007C	New Finance Offerings	1/1/2013	N/A
SCE-13-SW-008	Codes and Standards Program	1/1/2013	N/A
SCE-13-SW-008A	Building Codes and Compliance Advocacy	1/1/2013	N/A
SCE-13-SW-008B	Appliance Standards Advocacy	1/1/2013	N/A
SCE-13-SW-008C	Compliance Improvement	1/1/2013	N/A
SCE-13-SW-008D	Reach Codes	1/1/2013	N/A
SCE-13-SW-008E	Planning and Coordination	1/1/2013	N/A
SCE-13-SW-009	Emerging Technologies Program	1/1/2013	N/A
SCE-13-SW-009A	Technology Development Support	1/1/2013	N/A
SCE-13-SW-009B	Technology Assessments	1/1/2013	N/A
SCE-13-SW-009C	Technology Introduction Support	1/1/2013	N/A
SCE-13-SW-010	Workforce Education & Training	1/1/2013	N/A
SCE-13-SW-010A	WE&T Centergies	1/1/2013	N/A
SCE-13-SW-010B	WE&T Connections	1/1/2013	N/A
SCE-13-SW-010C	WE&T Planning	1/1/2013	N/A
SCE-13-L-001	Integrated Demand Side Management Pilot for Food Processing	1/1/2013	N/A
SCE-13-L-002	Energy Leader Partnership Program	1/1/2013	N/A
SCE-13-L-002 Rollup	Energy Leader Partnership Program	1/1/2013	N/A
SCE-13-L-002A	City of Beaumont Energy Leader Partnership	1/1/2013	12/31/2015
SCE-13-L-002B	City of Long Beach Energy Leader Partnership	1/1/2013	N/A

CPUC ID	Program Name	Date Added	Date Removed
SCE-13-L-002C	City of Redlands Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002D	City of Santa Ana Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002E	City of Simi Valley Energy Leader Partnership	1/1/2013	12/31/2015 Merged with Ventura
SCE-13-L-002F	Gateway Cities Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002G	Community Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002H	Eastern Sierra Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002I	Energy Leader Partnership Strategic Support	1/1/2013	N/A
SCE-13-L-002J	Desert Cities Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002K	Kern County Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002L	Orange County Cities Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002M	San Gabriel Valley Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002N	San Joaquin Valley Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002O	South Bay Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002P	South Santa Barbara County Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002Q	Ventura County Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002R	Western Riverside Energy Leader Partnership	1/1/2013	N/A
SCE-13-L-002S	High Desert Regional Partnership (formerly City of Adelanto Energy Leader Partnership)	1/1/2013	N/A
SCE-13-L-002T	West Side Energy Leader Partnership	1/1/2013	N/A

CPUC ID	Program Name	Date Added	Date Removed
SCE-13-L-002V	North Orange County Cities Energy Leader Partnership	4/3/2015	N/A
SCE-13-L-002W	San Bernardino Regional Energy Leader Partnership	4/3/2015	N/A
SCE-13-L-002U	Local Government Strategic Planning Pilot Program	1/1/2013	N/A
SCE-13-L-003	Institutional and Government Core Energy Efficiency Partnership	1/1/2013	N/A
SCE-13-L-003A	California Community Colleges Energy Efficiency Partnership	1/1/2013	N/A
SCE-13-L-003B	California Dept. of Corrections and Rehabilitation EE Partnership	1/1/2013	N/A
SCE-13-L-003C	County of Los Angeles Energy Efficiency Partnership	1/1/2013	N/A
SCE-13-L-003D	County of Riverside Energy Efficiency Partnership	1/1/2013	N/A
SCE-13-L-003E	County of San Bernardino Energy Efficiency Partnership	1/1/2013	N/A
SCE-13-L-003F	State of California Energy Efficiency Partnership	1/1/2013	N/A
SCE-13-L-003G	UC/CSU Energy Efficiency Partnership	1/1/2013	N/A
SCE-13-TP-001	Comprehensive Manufactured Homes	1/1/2013	N/A
SCE-13-TP-002	Cool Planet	1/1/2013	N/A
SCE-13-TP-003	Healthcare EE Program	1/1/2013	N/A
SCE-13-TP-004	Data Center Energy Efficiency	1/1/2013	N/A
SCE-13-TP-005	Lodging EE Program	1/1/2013	N/A
SCE-13-TP-006	Food & Kindred Products	1/1/2013	N/A
SCE-13-TP-007	Primary and Fabricated Metals	1/1/2013	N/A

CPUC ID	Program Name	Date Added	Date Removed
SCE-13-TP-008	Nonmetallic Minerals and Products	1/1/2013	N/A
SCE-13-TP-009	Comprehensive Chemical Products	1/1/2013	N/A
SCE-13-TP-010	Comprehensive Petroleum Refining	1/1/2013	N/A
SCE-13-TP-011	Oil Production Program	1/1/2013	N/A
SCE-13-TP-012	Refinery Energy Efficiency Program	1/1/2013	N/A
SCE-13-TP-013	Cool Schools	1/1/2013	N/A
SCE-13-TP-014	Commercial Utility Building Efficiency	1/1/2013	N/A
SCE-13-TP-017	Energy Efficiency for Entertainment Centers	1/1/2013	N/A
SCE-13-TP-018	Schools Energy Efficiency Program	1/1/2013	N/A
SCE-13-TP-019	Sustainable Communities	1/1/2013	N/A
SCE-13-TP-020	IDEEA365 Program	1/1/2013	N/A
SCE-13-TP-021	Enhanced Retrocommissioning	1/1/2013	N/A

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2015 Energy Efficiency Program Overview

Pilot Program Target Updates

The following narratives for the 2015 Energy Efficiency Pilot Programs are submitted herein, pursuant to Commission Decision (D.) 09-09-047 (Ordering Paragraphs 11 & 20). The program performance metrics were submitted via advice letters and approved through Disposition Letters issued by the Energy Division.

I. Local Government Strategic Planning Pilot Program, SCE-L-004t

A. Pilot Program Description

The Local Government Strategic Planning Pilots are designed to provide increased funding and support for city, county, and regional governments to pilot activities that directly support the local government Strategic Plan goals and strategies. These pilot programs are a result of a solicitation process whereby local governments proposed activities above and beyond normal partnership work that would directly align with the local government Strategic Plan.

B. Target/Metrics: Program Progress and Performance Metrics

Program Performance Metrics	Progress
Dollars distributed to participating local governments or agencies to date.	<ul style="list-style-type: none"> \$21.4 million was distributed to local governments or agencies for the 2010-2012 program cycle. \$3.7 million was distributed to local government or agencies for the 2013-2014 program cycle.
Percent of awarded dollars distributed to participating local governments or agencies to date.	<ul style="list-style-type: none"> Eighty-nine percent (89%) of the funds awarded through the 2010-2012 program cycle were distributed to participating local governments and agencies. Sixty-seven percent (67%) of the funds awarded through the 2013-2014 program cycle were distributed to participating local governments and agencies. <p>Although there was no additional funding, SCE continued these pilots during 2015, as authorized in D.14-10-046, to enable local governments to complete their tasks.</p>
Complete summary report on lessons learned and best practices that can be used by other local governments.	SCE worked with the CPUC Energy Division to develop a summary report on lessons learned and best practices for local governments that will be published in June 2016.

C. Description of Changes in Metrics Used and Reasons for the Change

N/A.

D. Program-Related or Economic Changes that Impact Metric Results

N/A.

II. Upstream Residential Heating, Ventilation and Air Conditioning (HVAC) Pilot Program

A. Pilot Program Description

The Residential Upstream Heating, Ventilation and Air Conditioning (HVAC) Pilot Program offers incentives to upstream market actors, such as HVAC distributors, to stock and promote qualifying high-efficiency residential HVAC equipment. Incentives are provided to these upstream market actors for the sale of high-efficiency residential HVAC systems in the IOUs' service territories, with measures covering air-conditioning units and furnaces, and are expected to increase the market penetration of high-efficiency HVAC equipment and drive a variety of energy savings for customers.

The logic that underscores this pilot program's design, modeled after the successful Commercial Upstream HVAC Program, is that a relatively small number of upstream market actors are in a position to influence the equipment choices of thousands of downstream market actors, such as customers, architects, and retailers.

Since the residential HVAC market is different from the commercial HVAC market in terms of the levels of influence of various market actors in affecting customer purchasing behavior, further evaluation is necessary to determine if this new program will produce the desired result of increasing the residential market penetration of high-efficiency HVAC units.

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B. Target/Metrics: Program Progress and Performance Metrics

Program Performance Metrics	Progress
Program participation will demonstrate at least a 10% increase over historical high efficiency sales.	As compared to 2014 high efficiency sales weighted for enrollment date, the 2015 program delivered 279% of the volume associated with all enrolled distributors and 280% of the volume associated with active distributors.

C. Description of Changes in Metrics Used and Reasons for the Change

N/A.

D. Program-Related or Economic Changes that Impact Metric Results

N/A.

III. Sustainable Communities Pilot Program (Third Party), SCE-TP-19

A. Pilot Program Description

SCE's Sustainable Communities Program (SCP) is a non-resource program that provides design and technical assistance, training, and other professional resources to new construction projects. The program intervenes to incorporate sustainable and/or green building practices on large-scale master-planned projects and/or mixed-use projects that may potentially include single and multifamily master-planned communities, office campuses, and retail space, as well as unique, smaller-scale, Zero Net Energy (ZNE) projects.

SCP was designed to assist the developers of these types of projects to achieve energy savings beyond the core new construction program requirements and to incorporate sustainable building practices beyond energy efficiency. SCP also emphasizes sustainable development for community-scale projects and ZNE goals.

B. Target/Metrics: Program Progress and Performance Metrics

The Sustainable Communities Program included six (6) projects in 2015, which varied from large-scale infill to single-family ZNE homes. The program also focused on diversifying

the projects in its portfolio to include more nonresidential projects and expanding its services to the Proposition 39 Zero Net Energy Schools Statewide Pilot Program. For three of these projects, SCP collaborated with other resource-based SCE programs (such as Savings By Design, Emerging Products, and others) to leverage synergies across resource and non-resource programs.

SCP also showcased its results via speaking engagements, educational tools, and case studies. Examples of these marketing efforts include posting information online at the **Sustainable Communities Program** website, and participating in two "green" conferences: Municipal Green Building Conference & Expo (MGBCE) and San Diego Green Building Conference and Expo (SDGBCE).

Program Performance Metrics	Progress in 2015
Number of master-planned communities intervened in and with documented improvement in the qualitative nature of urban form per the LEED for Neighborhood Development (LEED-ND) checklist.	Two (2) projects ¹
Number of master-planned communities intervened in and with documented improvement in DSM performance per Title 24.	Two (2) projects
Number of master-planned & zero net energy (ZNE) projects offered technical assistance and financial incentives to developers.	Six (6) projects ²
Number of tools developed or existing tools calibrated to refine assumptions about non-code usage, such as plug load and occupant behavior.	<ul style="list-style-type: none"> • Five (5) tools from previous years were calibrated as necessary and used. • Tools range from community benchmarking to water resource savings calculations. • No new tools were developed in 2015.
Number of ZNE products intervened in and with documented progress toward ZNE.	Six (6) projects, including homes, office buildings, schools, and neighborhood community centers.

¹ Principles from LEED ND were included in recommendations, but these projects did not have an interest in pursuing this rating system.

² The Sustainable Communities Program did not provide financial incentives to developers.

C. Description of Changes in Metrics used and Reasons for the Change

N/A.

D. Program-Related or Economic Changes that Impact Metric Results

The 2015 tools budget was used to focus on project-specific assistance. Tools developed in previous years were continuously updated if necessary and used when applicable.

Appendix B

SCE's Final December Monthly Report for 2015

For access, please visit the California Public Utilities Commission Energy Efficiency Groupware Application at <http://eestats.cpuc.ca.gov/Views/Documents.aspx>.

Appendix B

**SCE's Notice of Availability for Related Documents Available for Viewing and Downloading
on the CPUC's EESTATS Website:**

<http://eestats.cpuc.ca.gov>

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

Order Instituting Rulemaking Concerning Energy
Efficiency Rolling Portfolios, Policies, Programs,
Evaluation, and Related Issues.

R.13-11-005
(Filed November 14, 2013)

NOTICE OF AVAILABILITY OF SOUTHERN CALIFORNIA EDISON (U 338-E)
POSTING OF 2016 ENERGY EFFICIENCY PROGRAMS ANNUAL REPORT
SUPPORTING DOCUMENTS

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Dated: **May 2, 2016**

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
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NOTICE OF AVAILABILITY OF SOUTHERN CALIFORNIA EDISON (U 338-E)
POSTING OF 2015 ENERGY EFFICIENCY PROGRAMS ANNUAL REPORT
SUPPORTING DOCUMENTS

Pursuant to the Administrative Law Judge's Ruling Adopting Annual Reporting Requirements for Energy Efficiency and Addressing Related Reporting Issues dated August 8, 2007, Southern California Edison Company (SCE) hereby provides notice to the service lists in proceeding R.13-11-005, which is the successor proceeding to R.09-11-014, that the following documents are available for viewing and downloading on the CPUC's Energy Efficiency Statistics Application (EESTATS) website:¹

- Appendix C - 2015 Joint IOU Workforce Education & Training Annual Report
- Appendix D - SCE Reporting and Narratives for Approved Pilot Program Targets

Additionally, SCE hereby provides notice to the above-referenced service list that SCE's information regarding its Workforce, Education and Training (WE&T) Program for 2015 is included in the Joint IOU WE&T Program Annual Report will be uploaded by Southern California Gas Company on behalf of the IOUs to the EESTATS website. This report will be available on the date of this filing, May 2, 2016.

¹ Available at <http://eestats.cpuc.ca.gov>

Respectfully submitted,

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May 2, 2016